

May/June 1991

GREENPEACE

M A G A Z I N E

FUELING THE FANTASY



**Hawaii's
geothermal energy
plans may destroy
a rainforest**

**The dioxin cover-up:
An EPA and industry whitewash**

**Africa leads the
world on toxic waste**

NEVER AGAIN

Those who work to preserve the planet know that being an environmentalist means attending to the relationships between things. In this business, one becomes acutely aware of the subtle threads that connect—the ties that bind the Amazon's burning rainforests to the ozone hole over Australia to the rate of skin cancer among sunbathers on Bondi Beach. We suspected, for example, that DDT and PCBs could prove to be environmentally unsafe (they did), and that the health of the African savannah depends in part on robust populations of elephants (it does). Among other things, we knew that the United States' addiction to oil would continue to produce catastrophic spills, air pollution and bloodshed in the Middle East.

This concern with the long view might be considered unusual, even eccentric, by the standards of a Congress tied to electoral cycles of two, four or six years, and a public accustomed to gratification at the brisk pace of, say, a five-week war. But our allegiance is more to the rhythms of the planet than to the drumbeat of the moment.

And what this long view suggests is simple: for reasons of diplomacy, the safety of the environment and the economy, the United States should move quickly to end its dependence on oil, no matter where it comes from. It should use its new leadership role in the world to help other countries make the same transition, and to shift the massive expenditures that a long military presence in the Gulf would require to other, more pressing purposes. And it should act to prevent the environmental and human tragedy in the Gulf from ever happening again.

But the White House is doing just the opposite. Among the lessons not learned—despite the *Exxon Valdez*, the oil-drenched Gulf, and the 500 blazing Kuwaiti wellheads, is the environmental threat posed by oil. In the wake of the war, the oil industry and its allies in government have redoubled their efforts to open up the Arctic National Wildlife Refuge and pristine waters of Alaska's Chukchi and Beaufort Seas to oil drilling.

President Bush has posted his version of the nation's energy future, one so contrary to the needs of this country and of the planet that one wonders where this administration's alle-

giances truly lie. Funding for research and development of renewable energy has reached a new low—barely 10 percent of what it was 10 years ago—and any remaining gestures toward energy efficiency, a source of power both cheap and safe for the environment, have been eliminated from future plans by the White House. This despite a clear mandate from the American people that efficiency and renewables should be a top priority.

The oil industry and its allies in government have redoubled their efforts to open up the Arctic National Wildlife Refuge and pristine waters of Alaska's Chukchi and Beaufort Seas to oil drilling.

Although they have no qualms about invading the last protected piece of Alaskan coastline for oil, or spending up to \$50 billion a year to safeguard oil supplies in the Persian Gulf, President Bush and his advisors oppose efforts to boost the fuel efficiency of the nation's car fleet. This minor engineering refinement could replace much of the oil that used to flow from the shattered wells of Kuwait and Iraq and is also, by the way, supported by the American people.

There's more. Although global warming is caused in large part by the burning of fossil fuels, the White House continues to block international initiatives to combat the greenhouse effect. While European heads of state hammer out difficult agreements on phase-out schedules and emissions limits, the United States sits on the sidelines, refusing to commit

this country to curbing its copious release of the greenhouse gases.

Environmentalists want to help prevent a tragedy like the Gulf war from happening again. The first order of business, from our perspective, is to determine the extent of the ecological damage to the Persian Gulf. Greenpeace and its allies in the environmental movement have asked that all the nations involved in the Gulf conflict conduct an investigation into the long-term impact of the oil spill.

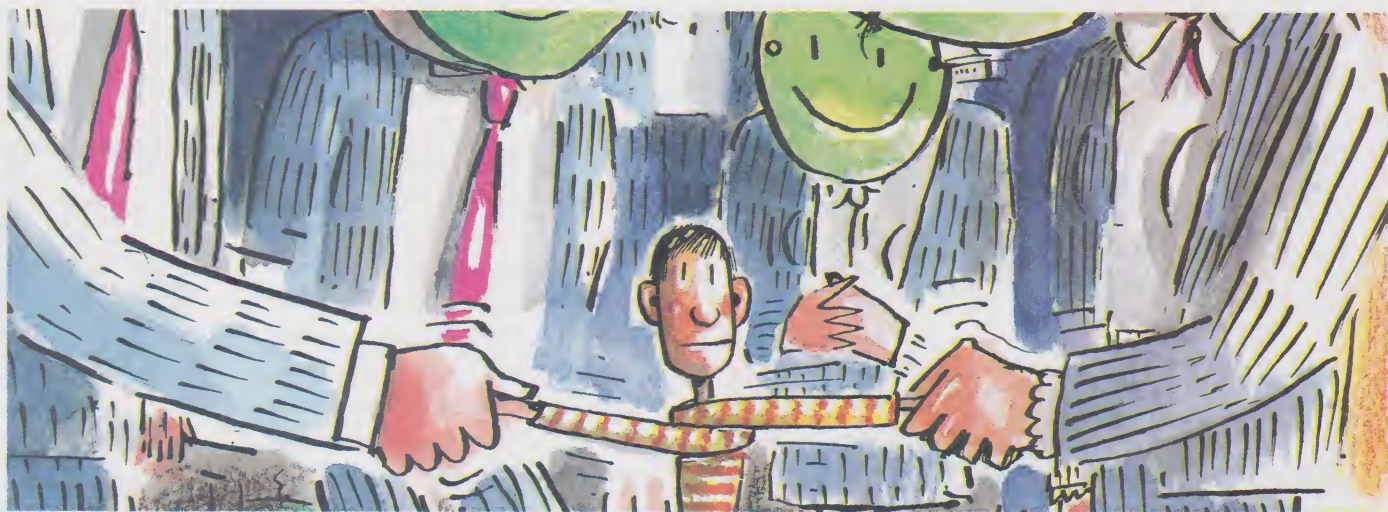
Also apparent is the need for a comprehensive agreement on war and the environment. There are surprisingly few international agreements that protect the environment, particularly in times of war. Those that do exist have been left unsigned, or largely ignored, by major military nations such as the United States and Great Britain. In June, Greenpeace is convening a conference with the help of the London School of Economics and the Center for Defense Studies at King's College, London, to explore adding a new Geneva Convention on the Environment to the four conventions already in existence. Such an agreement would outlaw the use of the environment as a weapon, and outlaw effects on the environment in third party states, international waters and the atmosphere.

This is our contribution to the long view. Why the obvious connections between these events seem so unclear to the White House is baffling. Our elected officials are presumably charged with planning for posterity, with the benefit of Americans and all people in mind. Yet they do just the opposite. How many more Gulf wars, with their appalling human and environmental cost, must take place before the seeds of these conflicts are addressed?

If anything good will come out of the war, it is the realization—one that seems to be taking hold even now—that averting war and protecting the environment are intimately connected. From there, perhaps people will begin to see clearly the pattern that connects the United States' energy policy with Alaska's majestic porcupine caribou herd, the U.S. position at global warming negotiations, the uncontrolled sale of arms to the Middle East, and ultimately, the nature of citizenship and democracy at the close of the 20th century. □

BY ANDRE CAROTHERS

GREENPEACE



8 GREEN LIKE ME

by Bill Walker

Our reporter goes undercover to mingle with industry's public relations flacks. A trip into corporate America—where things are whatever you say they are.

12 FUELING THE FANTASY

by Daphne Wysham

If developers and politicians have their way, Hawaii's Kilauea volcano will power the state's tourist fantasyland—at the cost of cutting up the last U.S. lowland tropical rainforest. A lesson in politics from the Big Island.

16 THE DIOXIN DECEPTION

by Joe Thornton

PCBs and DDT were banned for their toxicity. Dioxins are worse. But the Environmental Protection Agency and industry are fighting and winning the campaign to let dioxin off the hook. A frightening lesson in the triumph of economics over public health.

4 OPEN SEASON

White House stalls on global warming—Africa sets waste trade precedent—Television and the Gulf war.

6 ECONIEWS

Kuwait up in smoke—Island nations face extinction—From rainforest to wood chips—"Safeguard C" or public health?

22 CAMPAIGNS

Action for safe energy—Chem Waste blows it—Antarctic base team wanted.

24 ACTION ACCESS

Minority Summit—Stop the West Virginia pulp mill—Whale Alert—Cynamid mail drop—Home energy savings—Enviro-mag for kids—Darkroom developments—Rating your rep.

25 GREENPEACE LOG

26 LETTERS

HOW TO READ THIS MAGAZINE

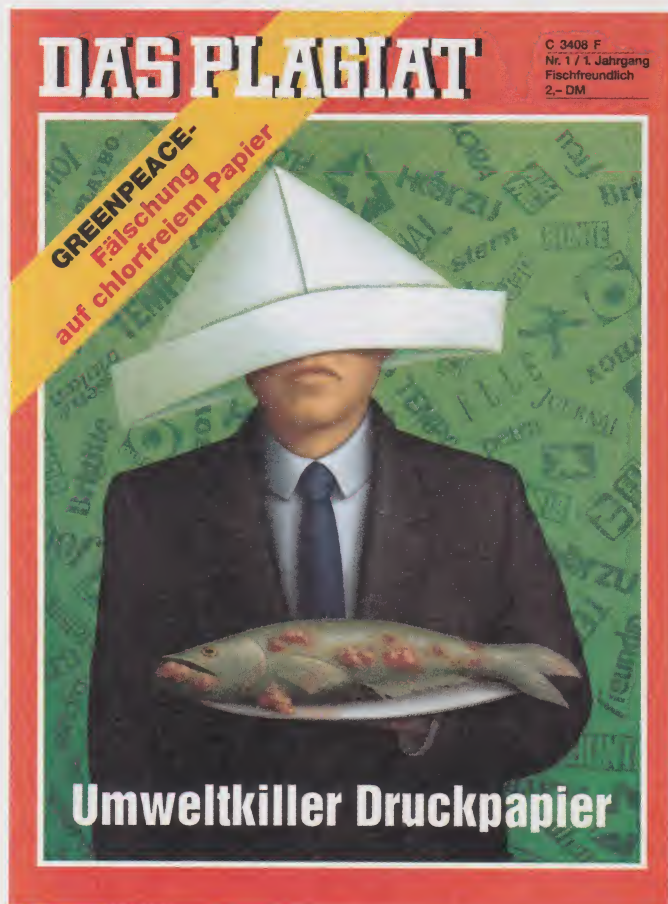
Publishing this magazine is a poor substitute for visiting everyone in the United States and Canada and explaining what counts in the age of environmental crisis. It is designed to anger, enlighten, enthuse and make possible action at the individual level. Please take advantage of it, write the letters, use it as a resource to enlighten others, including your local newspaper and organizations. If you want to reprint something, just ask. After you are finished, save it or pass it on to friends, a doctor's office,

school, retirement home, library, coffeehouse. As a last resort, recycle it. If your local recycler doesn't accept the cover, use it as gift wrapping paper.

Many diverse opinions and perspectives are presented in this magazine. They are not necessarily the "official" Greenpeace position.

The cover of this magazine is made of paper we import from Sweden. We use it to make a point: Almost all paper in the United States and Canada is bleached with chlorine, creating dioxin-laden chlo-

rinated pollution. This paper is bleached using an oxygen-based process, making it safer and cleaner. Using it is a small but significant step toward our ultimate goal: the exclusive use of post-consumer recycled paper that, when necessary for high quality, is bleached using a non-polluting technology. The inside of this magazine is printed on recycled paper. If you want to know more, write us at Greenpeace Magazine, Paper Department, 1436 U Street, NW, Washington, DC 20009 USA.



On March 1, the offices of Germany's leading newsweekly, *Der Spiegel*, and newsstands across the country were presented with *Das Plagiat* (*The Plagiarist*), an exact replica of *Der Spiegel*. Only one difference: *Das Plagiat*, created by Greenpeace, is printed on paper whitened by a chlorine-free, non-polluting bleaching process. *Der Spiegel* and the other leading German magazines had insisted it could not be done.

JUGGLING THE GREENHOUSE NUMBERS

THE FACT THAT IT IS NEWS WHEN THE BUSH administration finally admits global warming may require some response from the United States gives an indication of how far behind the curve Washington's air pollution policies are. That this admission, the centerpiece of the U.S. presentation to a United Nations climate

conference in February, was met with cold smiles from the nations in attendance and derision from environmentalists, tells how far they have to go.

Part of the chill is no doubt due to the U.S. delegation's laughable "Action Agenda," a hodgepodge of initiatives, most of which have already been accomplished, that attempts to imply that the White House is well on its way to being part of the solution, rather than the main problem, in the greenhouse dilemma. By adding numbers from the Clean Air Act, the Montreal Accords (the international agreement on curbing CFC production), a limited energy efficiency program and some trees the administration plans to plant, delegation head E.U. Curtis Bohlen was able to argue that the United States has already accomplished much to avoid future greenhouse gas emissions.

Never mind that most of the other industrialized countries in attendance have done the same and more, and none had the gall to recast these incremental gas curbs, in particular the separate agreements forged over CFCs, as meeting the goals of the conference. (The curbs associated with the CFC agreement represented over three-quarters of the United States' "progress" on global warming.) Never mind that Austria, Australia, Canada, Denmark, France, Germany, Italy, Japan, the Netherlands, Norway and Sweden have all proposed targets for limiting CO₂ emissions, a principle that the White House firmly rejected. By a wide margin, the United States remains the largest producer of greenhouse gases, accounting for 20 percent of the warming potential despite having only 5 percent of the world's population.

The February international climate conference, held in Chantilly, Virginia, was fraught with irony. It took place in record-breaking warm temperatures and in a location that has no public transportation. And it coincided with the release of a study by the Congressional Office of Technology Assessment (OTA) which concluded that U.S. emissions could be reduced by as much as 35 percent below 1987 levels with present technology. The OTA report is one of several suggesting that curbing greenhouse emissions could be relatively simple and inexpensive and, in some cases, even profitable.



WHAT DID YOU KNOW, AND WHEN DID YOU KNOW IT?

According to a survey conducted in February by the University of Massachusetts at Amherst, the more people know about the circumstances behind the war in the Gulf, the less likely they are to support U.S. policy. Supporters of the war, for example, were more than twice as likely to assert, incorrectly, that Kuwait was a democracy.

Other results of the study: While 53 percent supported U.S. intervention to restore the independence of illegally occupied countries, only 31 percent were aware that Israel is occupying land in the Middle East, and 3 percent were aware of Syria's occupation of Lebanon. Although it is commonly agreed among journalists, policy experts, U.S. officials and others that the invasion of Kuwait was largely motivated by Iraqi economic

AFRICANS SHINING EXAMPLE

concerns (Kuwait's low oil prices), only 2 percent of the respondents were able to identify this as a reason for Hussein's action.

The survey also showed that the more television respondents watched, the less accurate was their knowledge about the events in the Persian Gulf. "Even after controlling for all other variables," said the study's authors, Sut Jhally, Justin Lewis and Michael Morgan, "we discovered that the correlation between TV watching and knowledge was a negative one."

The only anomaly was the avid TV viewers' familiarity with one U.S. weapon, the Patriot missile. More than 80 percent were able to identify it as the missile that shot down Iraqi Scuds. "It is extremely disturbing that this public expertise in weapons technology is not matched by any clear understanding of the circumstances that lie behind their deployment," said the study's authors.

IN THE PAST, WHEN EUROPEAN AND AMERICAN toxic and municipal waste traders searched for places to sell their services, they invariably looked to Africa. Among the less noble ventures—the 1988 scheme to dump toxic incinerator ash from Philadelphia in Guinea as "raw material for bricks," and the deal made by one Italian businessman to "store" 8,000 leaking drums of toxic waste in the Koko, Nigeria, backyard of a man named Sunday Nana (Mr. Nana received \$100 a month).

But Africa's role as waste bin for the industrialized world may now be over. In 1989, after the United Nations' Basel Convention failed to outlaw the flow of toxic waste to less-industrialized countries, African nations (under the auspices of the Organization of African Unity or OAU) refused to sign, preferring to fashion their own regional agreement. Today, after 18 months of debating sessions, the "Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management Within Africa of Hazardous Wastes" awaits ratification by 10 African nations.

Undoubtedly the world's most comprehensive toxics import ban, the Bamako Con-

vention forbids the import of hazardous and radioactive wastes into the continent of Africa without exception. It bans toxic dumping on land, in the sea, in seabeds and in sub-seabeds. It bans ocean incineration. It bans the import of hazardous substances that have been banned, canceled, refused registration or voluntarily withdrawn in the country of origin. It requires companies to conduct hazardous waste audits, holds waste generators liable and establishes the preventive, precautionary approach to pollution problems, while defining clean production.

Africa's refusal to accept substances not safe enough for use in the exporting country is sure to raise the ire of toxic peddlers. It is doing what the peddlers' own countries have refused to do. As Wana Leba of the OAU Secretariat commented, "After Basel, Africans realized that we would have to take the responsibility for protecting our own continent, as it was clear that many industrialized nations were unwilling to help us do so."

Once ratified, Bamako will place Africa well ahead of many industrialized nations in its approach to toxic chemicals. It also will serve as a model for positive, forward-thinking pollution legislation in other Third World regions. Coming from a continent whose monetary wealth has declined over the last decade, thanks in part to crushing debt and a degrading environment base, this regional agreement should provide a global lesson.

DEMOCRACY AT WORK

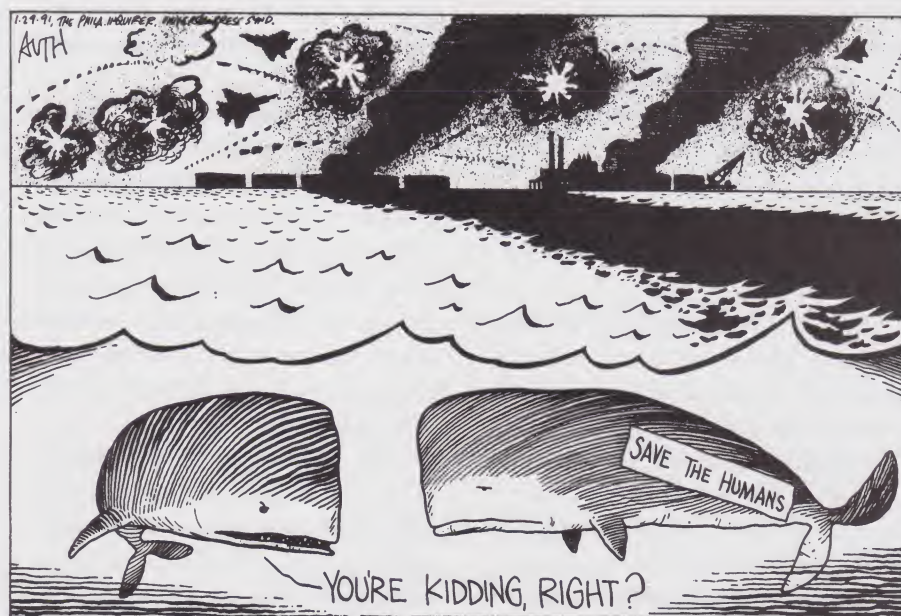
"The loudest single message [from the public] was to increase energy efficiency in every sector of energy use."—*Secretary of Energy James Watkins, April 1990*

"According to our poll of 1,200 registered voters, 75 percent of the American public would choose renewable energy as a first or second priority for government funding, and 67 percent would choose energy conservation."—*Scott Denman, director, Safe Energy Communication Council, December 1990*

"If I thought there was one element that was critical [to the national energy strategy], it is the opening of the Arctic National Wildlife Refuge [to oil exploration]."—*Watkins, January 20, 1991*

GREEN EDUCATION

Christopher Childs—Greenpeace lecturer on the college circuit—was awarded the 1991 Campus Entertainment Award for best lecture/topical program by the National Association for Campus Activities (NACA). He has presented his show at more than 150 colleges throughout the country. For information on how to bring Chris to your university, contact Lordly and Dame, Inc., 51 Church Street, Boston, MA 02116; 617-482-3593.





SAFEGUARD C

IF YOU THOUGHT THE 1963 NUCLEAR TEST Ban Treaty had forever banned atmospheric nuclear testing, think again. A policy code-named "Safeguard C," recently uncovered in a 1982 Department of Energy (DOE) document, reveals secret U.S. contingency plans to resume atmospheric testing of nuclear weapons in the Pacific if testing is considered to be in the interests of "national security."

In 1954, the U.S. exploded the "Bravo" bomb, exposing the Pacific islanders to high levels of radiation. Rongelap Atoll was declared safe in 1957, and the islanders returned, only to be plagued by thyroid disorders, miscarriages, birth defects and other illnesses.

In 1982, DOE released a radiological survey that indicated that Rongelap was as contaminated as Bikini and Enewetak, two atolls that had been evacuated prior to the atmospheric tests. After pleading unsuccessfully with DOE to conduct health studies and move the islanders to a safe atoll, the people of Rongelap turned to Greenpeace, and in 1985 the *Rainbow Warrior* helped them evacuate to another atoll. Despite a 1985 congressional directive, DOE has resisted all efforts to conduct independent analyses of the atolls.

With the discovery of Safeguard C, according to activists and lawyers supporting the people of Rongelap, the reason for a decade of obfuscation becomes clear: studies funneled through the military section of DOE's radiation health and safety programs were compromised by DOE's conflicting mandate to ensure access to the atolls in the event of the resumption of nuclear testing. "The plight of Rongelap, as far as DOE was concerned, took a back seat to the priorities of DOE's defense programs," says E. Cooper Brown, a public interest attorney who has represented Marshall Islanders since 1985.

Last year, Congress finally ordered that radiological health and safety programs for the Marshall Islands be transferred back to DOE's civilian side. Secretary of Energy James Watkins has announced that the DOE will take a "fresh look" into the need for a new independent study, but so far nothing has been planned, and the Rongelap people continue their exile from their contaminated home.

SCORCHED EARTH

BEYOND THE TANGLE OF THE MIDDLE EAST'S explosive politics lies the frightening long-term environmental impacts of the Gulf war. As we go to press, 500 or more of Kuwait's oil wellheads are aflame, a conflagration expected to take between one and two years to extinguish completely.

The smoke from oil fires is composed of hundreds of toxic chemicals, including benzene and toluene, many of which are poisonous and can cause cancer, birth defects and other health problems. Soot-laden precipitation will contaminate desert, agricultural lands, grazing lands, rice paddies and wildlife for 1,000 or more miles in every direction, depending on wind direction and rainfall. Since these toxins increase in concentration as they move up the food chain, humans, large fish and large birds will be most heavily affected. The oily clouds will also create acid rain with familiar effects—reduced agricultural productivity, stunted growth of plants, tree and fish die-offs, and extensive disruption of aquatic food chains.

For some time now, scientists have been predicting that smoke from the oil fires might form an umbrella upwards of 1,000 miles in diameter, which would block the Middle Eastern sun, reducing ground temperatures as much as 20 degrees Celsius. In mid-March, parts of Iraq and Kuwait were reporting drastically reduced ground temperatures. Such temperature shifts could affect regional climate, altering the monsoons and disrupting agricultural productivity, possibly resulting in famine.

Studies of desert ecology show that vehicles destroy the desert by breaking the crust of microorganisms and sand that holds the desert surface in place. This disruption leads to wind and rain erosion, the uprooting of plants and the release of fine sand that is picked up in increasingly abrasive windstorms. This in turn feeds further erosion and loss of plant cover. It will take centuries for stability to be regained in the Gulf region.

The oil spill's eventual toll remains to be seen; wildlife losses, although large, have not been quantified in any systematic way. Millions of birds and other forms of life have been killed by starvation, asphyxiation,

SILVER LINING DEPARTMENT

"This is not a disaster, it is merely a change. The area won't have disappeared, it will just be underwater. Where you now have cows, you will have fish."—J.R.

Spradley, a member of the U.S. delegation, explaining the benefits of global warming and sea level rise to the Bangladesh delegation to a conference on the greenhouse effect.

THINKING LOCALLY

On December 3, the San Francisco Board of Supervisors banned the use of imported tropical timber by any San Francisco department or agency. The cities of Santa Monica, California and Bellingham, Washington and the state of Arizona have similar bans. Timber bans are being considered in the city of Baltimore and Massachusetts state. Berkeley, California, is considering a law that would ban the use of tropical timber for all uses, including private construction.

• **What You Can Do:** Write to the Honorable Sidney Yates, Chairman of the House Interior Appropriations Subcommittee, 2234 Rayburn House Office Building, Washington, DC 20515, and ask him to provide funds for a comprehensive and independent study of Rongelap Atoll as well as for humanitarian assistance and proper medical attention for the people of Rongelap.



Rongelap's 1985 evacuation, courtesy of Greenpeace. Will they ever return?



drowning or poisoning. The local fishing and shrimp industries are completely wiped out, for the moment. Greenpeace has made attempts to gather further information about the environmental destruction caused by the war but has been denied access to the region by the Saudi government.



The Gogol-Naru people versus Japanese logging giant Honshu Paper

DEFENDING PAPUA NEW GUINEA'S FORESTS

THE GOGOL-NARU PEOPLE OF PAPUA NEW GUINEA stood by patiently for the last 16 years as the Japanese lumber company Jant Pty. Ltd., a subsidiary of Honshu Paper Corp., clearcut more than 170,000 acres of their tropical rainforest. In exchange, the Gogol-Naru were promised better roads and social services.

The benefits never came, and logging has destroyed the Gogol-Naru's land. According to local activists and landowners, Jant has obliterated sacred tribal grounds, compacted soil and polluted rivers with fuel and sediment. Last October, in a petition signed by 86 percent of the tribe, the landowners demanded compensation for the destruction of their lands, but were ignored until they shut down the logging operations by blockading roads. The blockade brought Jant to the negotiating table, but the company once again reneged on its promises.

Jant turns tropical rainforests into woodchips, which are then processed into packaging material and cardboard. Under the timber contract, royalties to Gogol-Naru came to some \$50 to \$100 paid to each family clan every four years. At the same time, Jant avoids paying taxes to the Papua New Guinea government through a system called "transfer-pricing," which allows it to deny that it makes

any money in Papua New Guinea while making large profits overseas.

In January, the landowners called for a complete halt to the logging operations, and are organizing new blockades. The Gogol-Naru have again demanded that the Jant contract be immediately reviewed by the government, that an environmental impact assessment be carried out without delay and that they be compensated for the degradation of their lands.

THE FIRST VICTIMS

WHILE INDUSTRIALIZED COUNTRIES FRET, TO varying degrees, about the impact the greenhouse effect might have on agriculture and wildlife habitats, several island nations are literally facing extinction. Low-lying countries like the Maldives, Kiribati, Tuvalu, the Marshall Islands and Trinidad and Tobago may disappear if the global sea level rises to the degree anticipated by the more than 300 scientists that make up the Intergovernmental Panel on Climate Change (IPCC).

In 1987 the president of the Maldives, Maumoon Abdul Gayoom, issued a call for studies on the effects of sea level rise on island nations. Since then, more than 40 low-lying countries have gathered to form the Alliance of Small Island States (AOSIS). These island nations are not pleased with the efforts of several industrialized nations, led by the United States, to block limits on greenhouse gas emissions. "We in the Pacific, the Caribbean and elsewhere have done the least to create these hazards," declared Prime Minister Bikenibeu Paeniu of Tuvalu, "but we now stand to lose the most."

Tuvalu, like most of the island nations, has experienced in the last 20 years a marked increase in devastating tropical storms, declining rainfall and a dieback of coastal coral formations, attributed to the stresses of warmer water. "Already whole indigenous cultures have disappeared through economic and cultural expansion from other regions. Now environmental and ecological destruction caused by economic expansion threatens to wipe out our cultures," accused Vanuatu's ambassador to the United Nations and chairman of AOSIS, Robert F. Van Lierop.

What You Can Do: Write to the Madang Premier, Mr. Andrew Ariako, P.O. Box 2018, Madang Province, Papua New Guinea, and ask him to support the Gogol-Naru people. Letters of support and contributions for Gogol-Naru landowners can be addressed to Asples Madang, Attn. John Ignatius, P.O. Box 1, Bogia, Madang Province, Papua New Guinea; and letters of protest can be sent to the president of Honshu Paper Corp., Yoshinobu Yonezawa, Honshu Building, 5-12-8 Ginza, Chuo-ku, Tokyo 104, Japan.

BACK OF THE ENVELOPE CALCULATIONS

Tons of paper sent to landfills today: 55 million

Tons of paper that will be consumed in the United States in 1995: 100 million

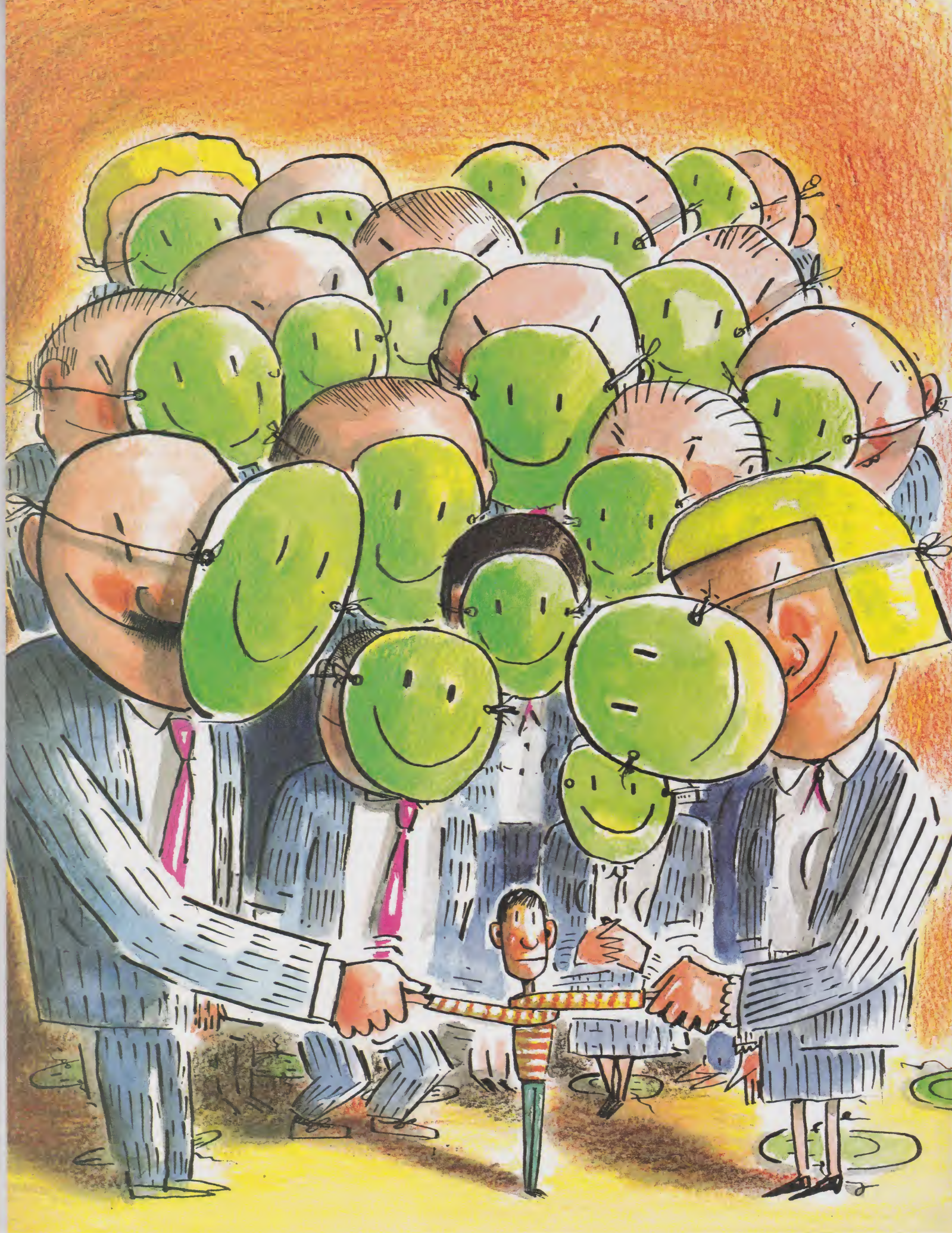
Percentage of U.S. paper that the American Paper Institute wants to see recycled in 1995: 40

Tons of paper that will end up in landfills in 1995 if API's goal is realized: 60 million

JUSTICE FOR ALL?

"If I go to Panama City and stand in front of a pharmacy and, because I need medicine, pick up a rock and break the window, you put me in jail. For me the forest is my pharmacy. If I have sores on my legs, I go to the forest and get the medicine I need... without having to destroy everything, as your people do."

—Panamanian Kuna Indian, interviewed in the *Amicus Journal*, on tropical deforestation in his land.



GREEN LIKE ME

GREEN GARBAGE BAGS. GREEN GASOLINE. Computers, hamburgers, compact discs: all here, all green, already. In California, where I live, supermarket chains that refuse to stop selling pesticide-dusted grapes are trying to promote themselves as environmentally correct because their pickle jars are reusable (you know, you can stick flowers in them). They're getting away with it. The chairman of Du Pont has the *New York Times* practically comparing him to John Muir. An oil company is forced by federal regulations to put a few bucks into preserving wildlife habitat, so it spends 10 times that much to buy newspaper ads patting itself on the back for obeying the law. Do people buy it? People do. Me, I buy Natural Brown coffee filters.

Sorry to have to tell you this, but you ain't green nothing yet. Get ready for a brazen new wave of hype, half-truths and plain old lies, as the greenwashers turn their spin-cycling talents to really challenging subjects. Green chlorofluorocarbons. Green nuclear power plants. Green Agent Orange. Oil tankers, toxics incinerators, dolphin steaks—you name it, the PR flacks of America are ready to reassure you that it's green, clean, and using it is one more simple thing you can do to save the Earth.

I learned all of this at the 43rd annual convention of the Public Relations Society of America (PRSA), which met in New York City last November. The theme of the 1990 convention was "Our World in Transition," but when I looked through the program for the first time I thought it was How to Make Your Corporation Look Like a Friend to the Planet While Reaping Billions in the International Waste Trade. And



I HAVE SEEN
THE FUTURE
OF PUBLIC-
RELATIONS
HYPE, AND
IT IS GREEN.

BY BILL WALKER

getting away with it. I signed up.

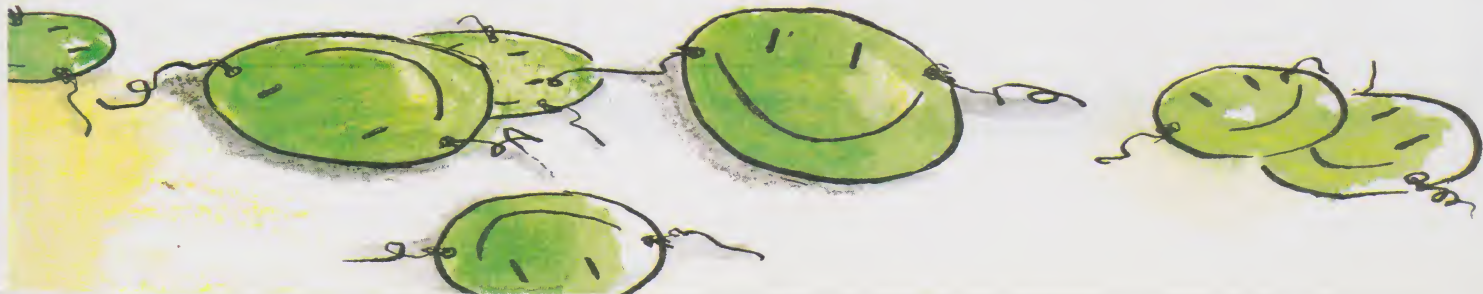
What I found, I must admit, was more subtle, less cynical, than I expected. Most greenflacks, it appears, believe in what they are flacking. When the cocktail chatter turns to environmental ethics, they tend to say things like this: "I've always considered myself a child of the sixties—stop the war, save the Earth, corporations are environmental criminals. It wasn't until I started working for this company that I saw for myself how strong their commitment is to the environment."

"What's the company you're working for?"

"Waste Management."

I made a note for my friend Bradley, who works for Greenpeace in San Francisco and is fighting on half a dozen fronts against toxics incinerators proposed by Waste Management Inc., the largest hazardous-waste handler in the country, and among the most frequently fined: "Big news. Inside source says WMI not environmental criminals."

In the interest of full disclosure, I should admit something else. I work for Greenpeace, too, and as much as I hate to admit it, my job there is basically public relations. So I suppose I shared a certain familial guilt with the thousands of legitimate PRSA conventioners with big plastic "hi-my-name-is" tags who queued earnestly for workshops like "Understanding Activist Publics: Making Allies Out of Enemies." (One of the most intriguing, "Emerging Public Relations Challenges in a Changing Defense Environment," was inexplicably canceled—maybe somebody noticed the world heading toward an oil war and decided that stuff about the changing defense environment



was a bit premature.) But I was really there, hanging around the red-carpeted meeting rooms of the Marriott Marquis on Times Square, as a spy: Observe greenwashing, document same, report findings, eat in Manhattan on \$20 a day.

The first day, I nearly blew my cover.

Sixty or so of us had been bused over to the Fordham University Graduate School of Business Administration for a symposium called "The *Exxon Valdez* Story: How to Spend a Billion or Two and Still Get a Black Eye in Public." For two hours, communications experts like William J. Small, former president of NBC News and United Press International, argued about the most notorious man-made environmental disaster in U.S. history from what seemed to me a brilliantly novel, if perverse, point of view: that the spilling of 11 million gallons of crude oil into Prince William Sound, the fouling of at least 1,500 miles of pristine Alaskan shoreline and the ensuing deaths of hundreds of thousands of sea birds, otters and salmon, was fundamentally a public relations problem. Small, now professor of communications at Fordham, wore a name tag that said "Bill."

"I won't ask how many of you are environmentalists," he began. "We are not here today to debate environmental or ethical questions. We are, at least for today, not concerned with the fate of sea otters, but with how a huge American corporation spent \$2 billion on the cleanup of what was not the worst oil spill ever, yet lost the battle of public relations

and more than a year later is still struggling with one of the worst tarnishings of its corporate image in American history."

Oh. Exxon's struggling, not the otters. Bill, it was clear, felt the company had gotten something of a raw deal.

"There are lots of reasons to feel sorry for Exxon," he said. "Joseph Hazelwood [the *Valdez's* captain] had a terrific reputation. Although the press made much of the fact that the first mate was not officially certified, he had met all of his qualifications to be certified. The judge who sentenced Hazelwood called the spill 'a manmade disaster not seen since the likes of Hiroshima.' Well, let's be realistic: Nobody died at Prince William Sound—no humans, anyway. Exxon failed to tell the best sides of its story."

I was thinking that the only good side of Exxon's story was the fact that the oil the *Valdez* spilled didn't end up as an L.A. smog alert. But Marion Pinsdorf, a professor of communications and media management at Fordham, also took up the company's case: "There were lots of positive Exxon stories that could have been picked up that were not." And what really hurt Exxon, said Professor of Management Systems Falguni Sen, was not immediately sending its chief operating officer to the scene of the disaster to display the company's concern.

"Exxon," declared Sen, "was long ago past the point at which it could no longer afford to have an operations-oriented CEO vs. a public-relations guy. Of course, as the chairman of Union Carbide found out in Bhopal, just as

important is how well you manage the perception of why the boss goes to the site." Someone asked: "What happened to the chairman of Union Carbide?"

"He spent his first 24 hours in India in jail," said Sen.

"Lesson learned," I scribbled in my official convention notebook. "Jail time harder to explain than thousands of deaths from toxic chemical leak." But I couldn't let it go at that. Bill Small said there was time for one more question, and I put my hand up. I felt like the one kid in first grade who doesn't believe in Santa Claus, but—and here's where I nearly blew it—managed what I thought was a pretty reasonable sounding hypothetical: "Isn't the, uh, real question here whether a company should continue engaging in actions that are inherently dangerous? Maybe a public relations department's responsibility should include telling the CEO that what the company is doing is not only unpopular but irresponsible, and that if there's an accident, there'll be no way to put a good face on it?"

People coughed. People turned to look at me. I wished I'd worn a tie.

"Well," Bill said, finally. "What would you do? Cut off the flow of oil from Alaska?"

This notion also sounded quite reasonable to me. But there was no time left; we were not there, after all, to discuss ethical questions. The buses were leaving for the hotel. I shook Bill's hand on the way out. He assured me that his own daughter used to make the same argument I had, but she had come around to her old man's way of thinking. There was still hope for me.

Back at the Marriott, one of the other participants in the Exxon seminar sought me out. Her name tag said "Kerry," she was from Seattle, and she worked for one of those outdoor clothing companies up there. Kerry just wanted me to know how much she appreciated what I'd said, because someone had to say it, and she was feeling bad because she hadn't said it, and of course she was really into recycling and all, and she couldn't believe the attitudes of these people. Could I?

She told me about a workshop she had attended earlier: "Building Public Support by Resolving Disputes Through Consensus," billed in the program as "a hands-on exercise based on real-life applications in which a company, government agencies, environmentalists, labor

HELLO my name is

Green CFCs. Green nuclear power. Green Agent Orange. Oil tankers, toxic waste incinerators, dolphin steaks, you name it — the PR flacks of America are ready to assure you that it's all green, clean and safe for the Earth.

and elected officials worked together to develop solutions all could live with." It struck me that the problem was that companies and government agencies were usually not interested in environmental solutions all could live with, but in those only a politically acceptable number would die from, but I had a feeling that wasn't what the people doing the workshop meant. I asked Kerry what she'd learned at the workshop.

"One of the group leaders said when you're dealing with a group of outside agitators—Greenpeace or somebody like that—they usually have a different agenda than the people in the community where you're trying to place your facility," Kerry said. "If you let them rant and rave and foam at the mouth, the community will sometimes get turned off and approach you with a compromise. She said you can short-circuit these outside agitators by letting them disrupt public meetings, then you can arrange a private meeting behind their backs."

"Where was she from?"

"Waste Management, I think."

I drifted from meeting room to meeting room, searching for the soul of the greenwasher.

I got a rather enthusiastic dose of optimism from keynote speaker Patricia Aburdene, collaborator (and wife) of *Megatrends* pop-futurist John Naisbitt. "We now have the opportunity," she said, "to create techno-topia—although we've also got to deal with poverty, homelessness, this Persian Gulf thing and, of course, the environment."

I witnessed an act of bravery by the manager of a big financial services company, who began his seminar ("Managing the Environment: A Business Perspective") by declaring, "I am an environmentalist." He handled the account for Pacific Gas & Electric Co. (PG&E), my hometown utility monopoly, so he talked a lot about "trade-offs" between environmental quality and "continuing to provide an adequate supply of energy for healthy economic growth." He later predicted that, during the '90s, "You're going to see a lot more of this radical activism—people tying themselves to redwood trees, that sort of thing. And that's probably healthy, as long as you don't have social disorder."

I heard Jay Hair, head of the National Wildlife Federation (the only environmentalist, incidentally, quoted in the *Times* piece on the

HELLO my name is

He had a brilliantly novel, if perverse, point of view: That the spilling of 11 million barrels of crude into Prince William Sound, killing hundreds of thousands of sea birds, otters and salmon, was essentially a public relations problem.

greening of Du Pont who found something good to say about the company), bluntly tell a gang of oil company flacks that fossil fuels had to go, and safe alternatives must be urgently pursued. Perhaps unintentionally, he quickly found a chorus of supporters from the other side of the room: "Nuclear!" they cried.

I tried to put all this together, from a flack's point of view. The future, it seems, will be great, except for war and global warming; we'll save the planet, but not enough to hurt the stock market; the environmental movement is OK because preserving redwoods keeps people from worrying about plutonium. There was a common thread there, but I couldn't put my finger on it. Then I overheard a conversation that made it clear:

A PR manager for a company named ChemLawn complained that the entire city of Columbus, Ohio, its headquarters, hated the company because it makes, you know, chemicals. "But what can you do?" she asked a couple of colleagues. They replied immediately—and in unison—"Change the name."

Of course. What did Reagan's EPA Chief Anne Gorsuch do when Congress threatened to throw her in jail? She got married! Anne Gorsuch might do time, but would Anne Burford? And after Windscale, Britain's notorious nuclear reprocessing plant, reached its fourth decade of pumping plutonium into the Irish Sea, it changed its name to Sellafield. The pollution, of course, continues. What did Exxon do when it got ready to put the *Valdez* back into service? Change the name. It hasn't

worked—"ex-*Valdez*" is still shorter in a headline than "*Mediterranean*"—but you had to admire the thought behind it, because it was the very spirit of greenwashing: Things are whatever you say they are.

You can say that a new brand of gasoline will "drive away pollution" because it's not as dirty as the stuff you were selling before. You can say that your tuna is guaranteed dolphin safe when you've got all of nine certified observers working the entire North Pacific fishing fleet. You can say that nuclear energy is a safe alternative to fossil fuels if you ignore Chernobyl and Three Mile Island. You can say whatever you want, because if you send out enough press releases on brown paper, sponsor enough nature series on public television and hire enough flacks for your Department of Marketing and Publicity, you might get away with it. Just change the name: Now it's the Office of Environmental Affairs.

I was still thinking about this on the final afternoon of the conference. I was waiting for an elevator when I recognized someone from the opening night cocktail party—the same woman from Waste Management who told me she was a child of the sixties. We said hello, and she tried to recall what company I was with.

"None," I confessed. Since I was practically on my way to the airport, I dropped my cover and told her the whole scam. "Greenpeace," she said. "What's Waste Management going to have to do to get you off our back?"

"Well," I said. "You could change the name." □

Fueling the Fa

How the Rush to Geothermal Energy May Destroy Our Nation's Last Rainforest

FOR DECADES, HAWAII HAS BEEN A FANTASY island in the minds of non-natives—a land where mainlanders are welcomed with leis by fresh-faced islanders, where Japanese businessmen are entertained by hula dancers in grass skirts and coconut bras, where tourists can visit white sand beaches, remote waterfalls and active volcanos.

One of the more lavish examples of fantasy fulfillment is the Hyatt Regency Waikoloa. Many facelifts were required to transform this hot and arid lava plain on the Big Island into the pleasure palace it is today. Intricate lava tubes, once concealing ancient native Hawaiian burial grounds whose alkaline pools were a haven for rare marine creatures, were bulldozed to make way for an artificial saltwater grotto replete with its own sandy beach. Elsewhere, enormous pools, carved out of the lava field, now harbor captive dolphins listlessly awaiting a brief frolic with the winner of the daily hotel lottery.

Three miles of open-air walkways snake their way through the hotel. Patrolling the walkways are air-conditioned monorail trams and electric boats, which cart guests and

their luggage past eight restaurants, various shops, spas and beauty salons to their air-conditioned rooms.

This fantasy is fueled by electricity. All told, the hotel squanders enough energy to power a small city: At about five average megawatts, the Hyatt Regency Waikoloa comprises 7 percent of the Big Island's total electrical consumption. And more such Hawaiian fantasy lands are on the drawing boards.

After undergoing the Waikoloa experience, the uninitiated might come away doubly deceived—first, that Hawaii's best offerings are found exclusively within the confines of the largest hotels; and, second, that Hawaii is an island of inexhaustible energy. But the 114,000 or so residents elsewhere on the Big Island know another reality. As demand for power surges at the various hotels, residents experience regular "brown-outs"—dimming of light-bulbs, shuddering of refrigerators and other frustrations of an unreliable, overtaxed, privately owned power grid.

Ninety percent of Hawaii's energy needs are met by burning imported oil. That has got to change, says Democratic Governor John D.



Waihee III, the first native Hawaiian to hold the office since Hawaii became a state in 1959. Cheered on by a coalition of lobbyists, businessmen, senators and members of Congress, Waihee claims that Hawaii's future energy needs can be met, at least partially, by harnessing the energy of the Kilauea volcano—by going geothermal.

Geothermal enthusiasts offer their state a bitter bargain. To fulfill the energy-intensive tropical fantasies of a tourist industry that throws billions into state coffers, they propose tapping the heat that billows from vents and volcanos throughout the islands. And the place where this technological fix will take place, to the dismay of an increasingly angry segment of Hawaiian society, is the last remaining significant lowland tropical rainforest in the United States: Wao Kele O Puna.

At first glance, the fierce opposition to the geothermal development of Wao Kele O Puna's 27,785 acres seems misplaced. Each day around the world, some 17,000 acres of rainforest are lost to loggers, farmers and developers. Yet it is here and in other rapidly



Shut out of their ancestral home, native Hawaiians are leading the fight to save the rainforest.

ntasy

By Daphne Wysham

dwindling Hawaiian forests that hundreds of species of birds, insects and plants have evolved in tiny niches isolated from the rest of the world. Because of this isolation, Hawaii is home to the highest percentage of endemic—or native—plant and animal species of any region of the world, higher even than the Galapagos Islands.

It is thus a uniquely fragile and precious region, one already diminished by bargains struck in the past by missionaries, politicians and developers. More than two-thirds of the plants and animals that have become extinct in the United States were Hawaiian endemics. And nearly a third of the species on the government's long list of nationally endangered species make their home in Hawaii.

The Puna rainforest is considered "essential habitat" for the O'o, one of Hawaii's rarest honeycreepers. The Po hawk, endemic to the Big Island and listed on the federal register of endangered species, also nests here. Puna also features a remarkable floral population, dominated by the 'Ohi'a tree, the only tree in the world known to act as its own successor on new lava flows, a useful talent in a region where volcanic eruptions are common. And Puna's wonders are still unfolding: A new species was recently discovered here, the carnivorous caterpillar.

To tap the heat below the Wao Kele O Puna rainforest, developers plan to build 150 to 200 geothermal wellheads on Kilauea volcano's east rift zone. These would funnel steam to 10 to 20 power plants producing 600 megawatts of electricity phased in between 1995 and 2007. The electricity is then to be transmitted to Oahu over land and along the seabed by way of three 200-mile submarine cables. The cables would pass through nature preserves as well as seismically active areas of ocean floor at depths four to seven times greater than any other cables in the world. The development would require a vast web of concrete and steel steam wells, power plants, pipelines, silica dropout ponds, cooling towers, roads, electri-



This geothermal power plant, already in place, presages the destruction to come.

cal transmission lines and cables. It is the largest construction project ever undertaken in Hawaii's history.

"The greatest danger to any tropical forest is fragmentation," says Dan Taylor, chief of Resource Management at the Hawaii Volcanoes National Park. Taylor is concerned that, since only a small portion of the forest will actually be destroyed, people will be lulled into thinking that the remaining forest's unique plants and animals will be able to share their habitat with roads, pipelines and wellheads. But tropical studies show that forests like Puna must remain whole to ensure the survival of their inhabitants. "It is a little like saying your

blood vessels could be sacrificed because they only make up 1 to 2 percent of your body," says Meg Ruby, coordinator of Greenpeace USA's Tropical Forest Campaign.

Wao Kele O Puna's integrity is important to another inhabitant of the islands, one also threatened by uncontrolled development: Hawaii's indigenous population. For centuries, the native Hawaiians have learned to live in the shadow of Kilauea, the world's most active volcano, gathering medicinal herbs and plants for religious and ceremonial purposes, as well as for subsistence food and income supplements.

But under the ownership of Campbell Estate, the largest landowner in Hawaii, which

has leased the land to True/Mid-Pacific geothermal company, Puna is closed to the natives, a prohibition they feel violates their constitutional rights. Several court challenges by the Pele Defense Fund, an organization of native Hawaiians and their supporters, have been rejected.

Since its inception in the late 1970s, the geothermal development has been the target of strong opposition by the Pele Defense Fund and an assortment of other national and international groups. But, for reasons that go far beyond the shores of Hawaii (see annotated document, p. 14), the development is moving forward as planned. Information obtained through a lawsuit filed by the Sierra Club Legal Defense Fund (SCLDF)—on behalf of several environmental groups—reveals that federal and state funds are being used to promote the geothermal plan and disarm the opposition via high-paid lobbyists, in apparent violation of the Byrd Amendment, a congressional ban on the use of federal funds for lobbying.

The SCLDF suit seeks an injunction against any further federal participation in Hawaii's geothermal development until a federal environmental impact statement (EIS) is carried out. Despite the investment of more than \$40 million in federal funding and the involvement of more than nine federal agencies over a 10-year period, no EIS has ever been undertaken—an oversight that a federal judge recently ruled may be illegal. The trial is scheduled for June 25.

Davianna McGregor, an assistant professor of Ethnic Studies at the University of Hawaii and a member of the Pele Defense Fund, is among those who believe that, in addition to an EIS, an Integrated Resource Planning (IRP) process, already underway, should be completed before any more geothermal wells are drilled. Carried out effectively in California, Nevada, Massachusetts and elsewhere, an IRP requires utilities to project their energy needs over two decades, paying attention to such factors as population growth, future land use and energy efficiency. "We want them to look critically at the way electricity is used, not just how much can be supplied," said McGregor.

A look at energy demand would also debunk geothermal proponents' major public justification for developing geothermal—that it would make a significant dent in Hawaii's use

of oil. Optimistic estimates show that geothermal power would displace only 10 to 15 percent of Hawaii's current oil consumption, according to Hawaii's Department of Business and Economic Development.

Energy efficiency, on the other hand, could do more than what geothermal proposes to do at a fraction of the cost. Energy efficiency in Hawaii's many hotels and homes could save about 600 megawatts of power—roughly equivalent to upper estimates for geothermal power—at a cost of \$700 million, or one-fifth to one-sixth the low estimates of what geothermal development would cost, according to expert assessments.

Professional engineer and energy consultant Robert J. Mowris explains it this way: "Supplying electricity to Hawaii is like filling a leaky bucket. Every new, energy-wasting building is another leak. For a utility, the answer is to fill the bucket faster. Instead, why not plug the millions of leaks with energy efficient technologies and establish strong building standards to prevent more leaks from developing?"

If Hawaii's politicians simply heeded the cautious advice of McGregor, Mowris and others, the integrity of the Wao Kele O Puna rainforest could be preserved. However, without public pressure to do so, they may perpetuate the fantasy—of greater profit margins fueled by an endless supply of energy—a fantasy which, like the Hyatt Regency Waikoloa, contributes to the destruction of the real Hawaii it pretends to celebrate. □

Peg Tummons of Environment Hawaii and Meg Ruby of Greenpeace USA's Tropical Forest Campaign contributed to the research for this article.

How PR Firms, Sell Off Hawai



he Hawaii State Department of Business and Economic Development (DBED) labors under the conflicting mandates of fostering business development while planning for Hawaii's energy needs. Using \$225,000 in state taxpayers' money, DBED hired C&A's Versage to push for congressional approval of \$15 million in federal funds, and to acquire an additional \$10 million from the state and \$25 million from private industry to size up geothermal's viability. It then hired a public relations consultant, Hill & Knowlton/Communications Pacific (see below) for an unrevealed sum to promote the state's geothermal master plan, and has refused to allow public comment on the plan since early 1990.



n April 1990, Greenpeace USA wrote a letter to all the members of Congress that detailed the growing opposition to the geothermal/cable project within the Hawaiian legislature and within Governor Waihee's own cabinet. This letter was obtained by C&A's Versage who shared it with his clients at DBED, writing them that he was "confident" that Greenpeace would not be able to find a senator to support its efforts to strike funding for the geothermal project. "There is nothing you or the governor need to do at this time," Versage wrote. Interestingly, all three senators who had agreed to support the strike in funds backed out at the last minute.



n Inouye's 1990 speech (drafted by Versage) before a Senate conference committee, he ridiculed environmentalists' objections to the geothermal project while pleading for federal funds for the boondoggle.

Inouye assured the Senate that only 300 acres of rainforest would be disturbed, a contention that contradicts latest reports on the project. Inouye had initially advanced a request for \$15 million for "verification and characterization" of geothermal's viability; \$5 million was appropriated. In this highly unusual eleventh hour appeal, Inouye managed to rescue the money by making a personal speech to the committee. As we go to press, Inouye has responded to a DOE threat to "reprogram" the \$5 million for "higher priorities" by conceding to demands for an environmental impact statement on the geothermal project.

Mr. Roger
Director, L
and Econo
State of Haw
Kamamalu Bu
250 S. King Str
Honolulu, Hawai

Dear Roger:

I would appreciate
will help remind Sally

I have also enclosed
Members in opposition to
in the near future. It is
Inouye speech, the DBED
forest issue, and circulated
should be considered.

The Inouye speech is now
it by the end of this week. New
Rick Spreyer, Hill and Knowlton,
around and in follow-up to the spe

I am sure I don't need to point
Senate swearing in on Wednesday. Me
Danny after the ceremony which I hope

I will try to speak to you before the

Politicians and State Agencies Hawaii's Rainforest



Cassidy & Associates (C&A), a high-powered Washington, D.C.-based lobbying firm, known for its ability to pull strings in high places—specifically, to encourage federal funding for client projects. Many of Cassidy's associates are former chief aides for top government officials. C&A represents at least three major players who stand to benefit from the Hawaii geothermal/cable project: Pirelli Cable Corporation of New Jersey (it has already received \$4 million out of \$35 million allocated for cable research and development), the Hawaii State Department of Business and Economic Development and Tourism or DBED (see below) and the University of Hawaii (which stands to gain up to \$200 million from the Department of Defense in related contracts).



Hill & Knowlton (H&K), the nation's largest public relations firm. H&K has worked for such diverse clients as Exxon, the government of Kuwait, the Catholic bishop's anti-abortion campaign, Playboy Enterprises, the Church of Scientology, Geraldo Rivera and several tobacco and liquor companies. It now courts corporate clients who are facing off against environmentalists, which Josephine Cooper, head of H&K's environmental group and a former EPA official, told a *Washington Post* reporter is "very good for business."

At a Greenpeace-sponsored press conference denouncing the geothermal project, H&K personnel quietly circulated a DBED press release that promoted the geothermal development's potential role in offsetting greenhouse gas emissions.



Democratic Senator Daniel K. Inouye, Hawaii's senior senator and one of the most powerful men on Capitol Hill. Inouye garnered the funds from Congress for the cable consortium component of the geothermal plan in the mid-1980s. From at least 1985 until late 1990, Inouye sat on the board of directors for Central Pacific Bank (CPB); he now serves as a "senior advisor" to CPB. From 1985 on, he also owned stock in CPB—26,026 shares, or over \$600,000 worth, as of early 1989. Sumitomo Bank owns 14 percent of CPB, and in turn holds stock in Sumitomo Corporation, one of the five corporations involved in the cable consortium.



C&A Vice President Vince Versage, Washington insider and key player in these geothermal dealings. Versage's previous employment: former legislative director for then Representative Tim Wirth—now Senator Wirth (D-CO)—and former senior legislative assistant to deceased Senator Spark Matsunaga (D-HI). By bringing on DBED and the University of Hawaii as new clients and holding out the promise of local jobs, Versage virtually created the critical local constituency base needed to move the Pirelli cable project forward. Versage orchestrated gatherings for key geothermal players in the political and business community, and ghost wrote speeches, congressional testimony, letters and other documents for Senator Inouye, Governor Waihee and former DBED Director Roger Ulveling.

VINCENT M. VERSAGE
Vice President

CASSIDY AND ASSOCIATES, INC.
Metropolitan Square
Suite 1100, 655 Fifteenth Street, N.W.
Washington, D.C. 20005
Telephone (202) 347-0773
Facsimile (202) 347-0785
May 9, 1990

Mr. Roger Ulveling
Director, Department of Business
and Economic Development
of Hawaii
Maui Building
King Street
Honolulu, Hawaii 96813

Two Park Plaza, Suite 600
Boston, MA 02116
Telephone (617) 340-3088
Facsimile (617) 340-6233
Public Ledger Building
Suite 1030
Independence Square
Philadelphia, PA 19106
Telephone (215) 921-3203
Facsimile (215) 922-7394

I have enclosed a copy of a letter which Greenpeace is circulating to all House members. It is, therefore, imperative, that materials be developed, such as the DBED brochure, and another brochure which focuses only on the rain forest. Other things such as an Inouye or Governor op/ed piece.

It is now on the Senator's desk and we expect him to sign off on it. Next week, when you are in town, we should meet, perhaps with Wirth, and the Inouye and Akaka staffs, and develop a strategy for the speech.

I hope you will be able to attend. We are planning to host a reception for the end of the week to go over any details.

Sincerely,
Vince
Vincent M. Versage

IN THE 1960S, WHEN SCIENTISTS DISCOVERED THAT THE pesticide DDT was causing reproductive problems among birds and fish, and that the same chemical was building up in the environment and the tissues of U.S. citizens, the government banned it. ¶ In the mid-1970s, scientists found cancer-causing PCBs, chemicals used in electrical transformers, accumulating in the tissues of marine mammals, birds, fish and humans. Although Monsanto, the only U.S.

Why the break from tradition? Dioxin (shorthand for a group of 75 chemicals, but most commonly used to refer to the most toxic form, also known as 2,3,7,8-tetrachlorodibenzo-p-dioxin, or TCDD) is no less dangerous than PCBs or DDT; on the contrary, dioxin is more toxic, longer-lived and even more likely to accumulate in living organisms. But dioxin has many powerful friends. While only a handful of industries were dependent on PCBs and DDT, dioxin is the unintended by-product of dozens of chlorine-based industrial chemicals and processes, including pulp and paper bleaching, garbage and hazardous waste incineration, the manufacture of many pesticides and industrial chemicals, and certain types of wood preserving, oil refining and metal smelting.

An industrial coalition, with U.S. chemical and paper manufacturers in the lead and EPA and lesser industries in tow, has conducted a decade-long campaign to "detoxify" dioxin's image in the public eye. And it is succeeding. "We're failing to deal with dioxin not because of any lack of information about its dangers to human health, but because of political and economic considerations," says Dr. Samuel

THE DIOXIN DE

producer of the chemicals, released studies saying PCBs were harmless, Congress banned them. ¶ In the 1980s, scientists discovered the same, and worse, about a class of chemicals called dioxins. But the Environmental Protection Agency (EPA) has allowed dioxin pollution to continue while cooperating with the industries most responsible for it, in an attempt to roll back regulations and reduce public fears.

Epstein, professor of Occupational and Environmental Health at the University of Illinois.

DIOXIN HAS BEEN BUILDING UP IN THE ENVIRONMENT since the rapid growth of the chlorinated chemicals industry after World War II. But controversy over the contamination didn't erupt until 1979, when EPA suspended use of the dioxin-contaminated herbicide 2,4,5-T on forests, rights-of-way and pastures. The sudden decision was prompted by an EPA study correlating spraying patterns of the herbicide with human miscarriages in western Oregon. Despite a flurry of protests from the chemical industry, EPA then began the long process of canceling 2,4,5-T's registration permanently, arguing that no safe level of exposure to dioxin could be demonstrated and that a ban on the herbicide was necessary to protect the public.

At that point, the agency was on firm scientific ground. Tests on laboratory animals showed dioxin to be among the most poisonous substances known to science. Doses as low as one one-trillionth of an animal's body weight have correlated with cancer, birth defects and reproductive problems. At higher but still tiny doses, it has produced those

same effects, plus developmental and nervous and immune system abnormalities, and damage to the kidneys, liver and skin. A 1985 EPA document regards TCDD as "the most potent carcinogen ever tested in laboratory animals."

Even worse, dioxin not only causes cancer itself, but also promotes cancers started by other carcinogens. Since TCDD always occurs in combination with other pollutants, the implications of this "cancer enhancement" are sobering. "Thirty years ago," Dr. Epstein says, "one in four Americans was getting cancer and one in five was dying from it. Today, one in three Americans gets cancer, and one in four dies from it. I have no doubt dioxin must be given some credit for this."

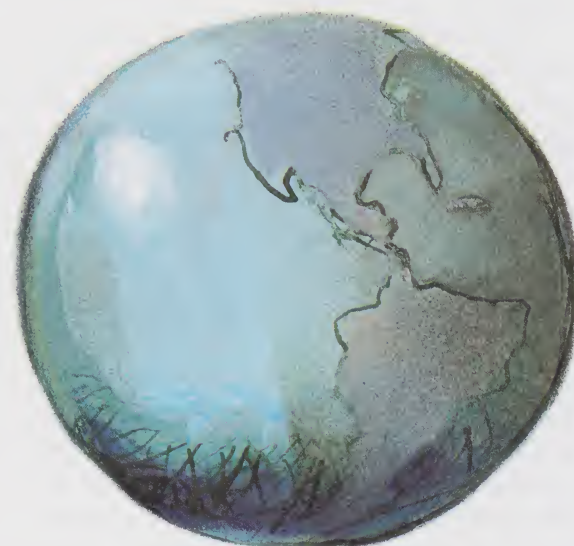
While EPA's pesticide regulators moved to ban 2,4,5-T, other EPA officials realized that a "no safe level of dioxin" policy would have broad implications. For instance, EPA was advocating incinerators for garbage and toxic waste, despite evidence that dioxins were formed and released in the burning process. An EPA memo described the quandary: "What should EPA do—regulate [dioxin] using the Clean Air Act—which could result in closing all resource

Levels of dioxin in human fatty tissue are so high that if the average American's tissues were soil, the Dutch government would forbid dairy cattle to graze on it.

The Monsanto studies were influential in EPA's dioxin policy, and they played key roles in legal decisions denying compensation to American and Australian Vietnam veterans.

In 1990, information surfaced showing that the Monsanto, BASF and Agent Orange studies were manipulated and scientifically invalid. In each case, the data or methods of the studies appeared to have been massaged to obscure dioxin's effects on exposed workers and veterans. Dr. Cate Jenkins, a chemist in EPA's Regulatory Development Branch, calls Monsanto's research "fraudulent" and refers to "flawed data and the knowing, inappropriate use of such data" in the studies. EPA is now conducting a criminal investigation of Monsanto's conduct, but the policies based on these studies remain. Despite ongoing revelations of this kind, EPA continues to rely on information prepared by industry. "Industry studies are always suspect," says Epstein. "The people who profit should not do the testing."

CEPTION



recovery [garbage incineration] facilities?" Other federal agencies were threatened as well: Waiting in the wings were perhaps billions of dollars in claims from Vietnam veterans exposed during the war to dioxin (as 2,4,5-T) in the defoliant Agent Orange.

While EPA tore itself in two, Dow and Monsanto, the nation's major 2,4,5-T manufacturers, began a scientific and political battle to salvage their herbicide and soothe the public's fear of dioxin. At the same time, the federal government began a research program into Agent Orange's effects on veterans.

In 1980, Monsanto released the first of three studies of workers exposed to dioxin at its 2,4,5-T factory in West Virginia. It concluded that the workers suffered no dioxin-related effects except for chloracne, a painful skin disease. Along with studies conducted by Dow, the German chemical company BASF and the government's Agent Orange project, the Monsanto research laid the foundation for claims that humans were somehow immune to the extraordinary toxicity dioxin had shown in animal tests.

This position was reported approvingly in the media throughout the 1980s, and it soon became accepted wisdom.

BY

JOE

THORNTON

ADDITIONAL

REPORTING

BY

JOHN

HANRAHAN

And, in August 1990, the House Government Operations Committee charged that the Agent Orange study, conducted between 1982 and 1987 by the government-run Centers for Disease Control (CDC), amounted to a "cover-up." According to the report, the CDC study embodied "flawed science" and "political manipulation" by the Reagan White House, which "controlled and obstructed" the study to ensure that Agent Orange was not linked to the veterans' health problems. Representative Ted Weiss (D-NY), who chaired the subcommittee investigation, termed the CDC study "a sham."

THROUGHOUT THE 1980s, WHILE INDUSTRY MAINTAINED that dioxin was safe for humans, some EPA officials lent a hand by suppressing information to the contrary. In late 1980, the Canadian government began to urge the U.S. to investigate the source of high TCDD levels found in the Great Lakes, and the U.S. and Canada agreed to conduct a

joint investigation. Internally, EPA scientists had already predicted increased cancer rates as high as 1 per 100 among people who ate just one meal of Great Lakes fish per week contaminated with dioxin at levels of 10 parts per trillion. Such an estimate, however, would require that the U.S. Food and Drug Administration (FDA) declare a quarantine on Great Lakes fish. EPA kept these figures quiet and successfully pushed FDA to recommend only that people limit their consumption to two meals per month of fish contaminated at a 25-50 parts per trillion "level of concern."

But EPA's Region 5 office, which serves the Great Lakes states, took a harder line. In the spring of 1981, EPA Region 5 prepared a draft report rejecting FDA's "level of concern" and concluding that dioxin in the Great Lakes constituted a grave cancer threat to persons eating fish from the lakes. The report named Dow, manufacturer of 2,4,5-T, as the primary dioxin source and recommended that consumption of fish caught in the region of Dow's Michigan plant "be prohibited."

When EPA released the report, all the damaging information had been deleted. A 1983 congressional investigation found that EPA officials John Hernandez and John Todhunter had forced Region 5 to delete all references to Dow as well as any discussion of health risks posed by eating Great Lakes fish. Also deleted were all mentions of other studies pointing to dioxin's toxicity, including miscarriages in Oregon and the effects of Agent Orange exposure. Both Hernandez and Todhunter resigned in the wake of the scandal.

In addition, documents leaked to the press in 1983 showed that EPA officials had concealed evidence conclusively linking dioxin to the miscarriages in Oregon and had forbidden its scientists to discuss the project with the public or the media. Within two months after the suppressed link came to light, EPA began an internal investigation, Dow "voluntarily" withdrew its opposition to the ban on 2,4,5-T and EPA quietly canceled the herbicide's registration without having to ratify a "no safe level" position.

WHILE INDUSTRY PUSHED ITS POSITION THAT DIOXIN WAS safe for humans, EPA regulators had to take another tack to avoid action because the agency's own science made clear that *any* dioxin exposure was a threat. The new strategy was based on elaborate studies called risk assessments, which attempted to measure the number of cancers in humans caused by dioxin. With these, EPA could make the political judgment that the threat posed by low-level dioxin exposure, while undeniable, was "acceptable." (For a comprehensive look at the politics of risk assessment, see "At Our Peril: The False Promise of Risk Assessment," *Greenpeace*, March/April 1991.)

EPA Chief William Ruckelshaus put the issue in stark terms in a 1983 speech to the National Academy of Sci-

ences, while the 2,4,5-T controversy still raged. "The administrator of EPA," Ruckelshaus insisted, "should not be forced to represent that a margin of safety exists for a specific substance at a specific level of exposure where none can be scientifically established." Instead, he urged the use of risk assessment to calm public "hysteria" and "resolve the dissonance between science and the creation of public policy."

For EPA, this meant fine-tuning the science to harmonize with its political agenda. From this point on, according to Paul Merrell and Carol Van Strum, who have written



GOVERNMENT SCIENTISTS WERE EXPECTED

exhaustive analyses of EPA's dioxin policy for Greenpeace, "Government scientists were expected to tailor their risk assessments to support already-made management decisions on dioxin."

One of the agency's first risk-based dioxin decisions involved the government-financed cleanup of Times Beach, Missouri. Emergency action was clearly necessary, but a no-safe-level position would have set a dangerous precedent. EPA thus declared a one-part-per-billion "level of concern"—requiring cleanup and evacuation at Times Beach

TO TAILOR THEIR RISK ASSESSMENTS TO SUPPORT

but setting the stage for ignoring future sites contaminated below this level.

In an internal briefing document, EPA officials admitted that the level was "based on cost and need for immediate action, not total health protection." But, the document said, this position "allows immediate action for agency, and good press. Buys time: allows time for reassessment of agency risk analysis methods and policies.... Allows preparation of public for possible change in policy. Intermediate cost option.... Easily implemented, sampling is relatively inexpensive and easy."

ALREADY-MADE MANAGEMENT DECISIONS.

Meanwhile, EPA was developing its official cancer potency estimate for dioxin under a court order forcing the agency to issue water quality regulations for dozens of chemicals, including dioxin. The estimate, finished in 1984, used standard methods to extrapolate from tests conducted by Dow on laboratory rats the cancer threat to humans posed by any exposure to dioxin. Once again, the tests showed that dioxin was the most potent synthetic carcinogen ever tested.

But EPA policymakers turned the study on its head, using it to set levels of dioxin exposure they considered "acceptable." Throughout the rest of the 1980s, then, EPA regulators could tell concerned communities that dioxin discharges from an incinerator or chemical factory were "acceptable" on a scientific basis. This risk-based policy also suited the affected industries, who could point to EPA regulations that reflected this new standard of "safety."

JUST AFTER EPA POLICYMAKERS HAD FINISHED THEIR risk assessment policy, however, new information emerged that sparked the call for emergency action once again. Scientists around the world were finding that dioxin contamination was not limited to those who worked in chemical factories or were sprayed with 2,4,5-T; on the contrary, dioxin was literally everywhere in the environment in alarming quantities.

The findings undermined EPA's "acceptable risk" position. Dioxin exposures were not only universal but they were already greater than EPA's "acceptable" amounts. The entire food supply—especially animal products—now contains so much dioxin that the average American is ingesting from 150 to 500 times EPA's "acceptable" dose on a daily basis. A single meal of Great Lakes fish can contain the "acceptable" dioxin dose for an entire year.

These results are no surprise to anyone familiar with dioxin's behavior in the environment. The chemical is extraordinarily long-lived, resisting natural breakdown processes for many years, even decades. And dioxin's tendency to collect in fatty tissues means that it is found in frightening concentrations in species near the top of the food chain. As a result, fish, birds of prey, marine mammals and people act as living reservoirs for dioxin at levels thousands of times higher than those found in the environment.

Since nursing babies occupy a place even higher on the food chain than adults, they receive the greatest dioxin doses of all. Surveys of mothers' milk in industrialized countries, including the U.S., have found dioxins in alarming quantities. EPA's latest estimate is that breast-fed infants are subject to dioxin doses about 11,000 times greater than the "acceptable" amount daily.

This information put EPA in an impossible position. Suddenly, the agency's level of "acceptable risk" was



exceeded by levels of dioxin found in the general public. In response, EPA moved quickly to revise its risk assessment to declare these new, higher doses "acceptable." By July 1986, EPA administrative staff convened a panel to assemble evidence justifying a downgraded estimate.

The pulp and paper industry, whose use of chlorine was just being revealed as a major dioxin source, joined the chemical companies in pressuring the agency. According to paper industry documents leaked to Greenpeace in 1987, the industry mounted a campaign to "forestall major regulatory and public relations difficulties" by pressuring EPA to keep alarming information from the public and to relax the present risk estimate. The briefings said the industry's "short-term objectives" were the following: "Get EPA to 'rethink' dioxin risk assessment....Get EPA to issue statement 'no harm to environment or public health.'"

EPA complied, agreeing to highly unorthodox arrangements with the American Paper Institute to limit access to information on the industry's contribution to dioxin pollution. At the same time, the agency's risk panel had developed a risk proposal that said dioxin's cancer potency was only one-sixteenth what the agency had thought in 1985. The panel was surprisingly frank about the dubious basis of the proposal, noting that "there is considerable uncertainty and controversy about the mechanism by which 2,3,7,8-TCDD causes cancer," and admitting there was "no definitive scientific basis" on which to choose one risk estimate over another. Nevertheless, EPA said its downgraded estimate was "rational, prudent science policy."

The reassessment drew immediate fire. "I believe that the new draft report on dioxin health risk fails to meet the rudimentary requirements of scientific discourse," Dr. Barry Commoner, of the Center for the Biology of Natural Systems at Queens College, told an EPA audience in 1988. "Politics should not hide behind the skirt of bad science." EPA's Science Advisory Board, too, rejected the new risk assessment, finding "no scientific basis for such a change." The proposal was canceled—for the time being, at least.

WHILE EPA AND THE INDUSTRY ASSURED THE PUBLIC that dioxin was not a cancer danger, new information emerged that suggested just the opposite. For instance, a 1989 study of a dioxin-exposed community near a chemical factory in Italy found increased rates of brain cancer, leukemia and other cancers. A 1990 study of Swedish pesticide applicators conclusively linked dioxin to high rates of specific, rare cancers. The same year, a panel of eight independent scientists, including Dr. Epstein and Dr. Commoner, surveyed all the information to date and found links between dioxin-contaminated Agent Orange and 10 different kinds of cancer, neurological effects, reproductive problems, immunological abnormalities and liver damage.

The final nail in the coffin for industry's argument

came in January 1991, when the National Institute for Occupational Safety and Health (NIOSH) published the results of a 10-year study of thousands of dioxin-exposed workers in the United States, including the same group studied by Monsanto. This, the most comprehensive epidemiological study of dioxin ever conducted, found conclusive links between dioxin exposure and elevated cancer rates.

With a final gasp, industry tried to dismiss the study. "This is very reassuring," said George Carlo, an epidemiologist



THE EPA FOUND THAT DIOXIN WAS NOT

gist who heads a consulting firm that has been retained by the Chlorine Institute. Because the link between cancer and dioxin was clearest at high exposure levels, Carlo asserted that lower levels were safe.

But that conclusion was clearly indefensible. "It doesn't say there is no risk," Marilyn Fingerhut, the study's chief author, says flatly. The study will cause "some weakening of the position of those who believe low levels of [dioxin] exposure are entirely safe for humans," epidemiologist John Bailer wrote in an editorial in the *New England Journal of Medicine*.

ONLY UNIVERSAL BUT THAT HUMAN EXPOSURES

Now, according to a flood of new dioxin studies, cancer may prove to be only one of our worries. Because dioxin imitates naturally occurring sex and growth hormones, it can promote the growth of cancers in fledgling stages throughout the body, according to a 1988 EPA document. Even worse, dioxin-altered hormone levels can disrupt the development of the immune system and interfere with fetal development, according to Ellen Silbergeld, a University of Maryland toxicologist who is a staff scientist with the Environmental Defense Fund. A damaged immune system can make people vulnerable to a variety

WERE GREATER THAN EPA'S "ACCEPTABLE" AMOUNT.

of diseases, none of which can be traced to dioxin exposure exclusively.

Above all, hormonal disruption impairs reproduction. Dioxin's effects on sex hormones can inhibit sperm formation, suppress ovulation and decrease libido, Silbergeld says. Michael Fry, a biologist at the University of California, told the *New York Times* in May 1990 that male birds exposed to dioxin-like compounds failed to exhibit normal courtship behavior, developed malformed testes and even began to grow ovaries. "Essentially they were chemically castrated," he said. Vietnamese villages sprayed with Agent Orange are showing high rates of infertility and birth defects years later, and Monsanto workers have reported impotence and decreased libido.

Some of the most sobering of recent research involves dioxin's effects on the development of children. Observation of rhesus monkeys exposed to dioxin prenatally and through mother's milk showed that the infant monkeys were unusually dependent upon their mothers and that the mothers, in turn, treated them as if they were ill or injured. Years later, the dioxin-exposed young had behavioral and mental difficulties. Their performance in memory and other mental tasks was poor, and they seemed unusually apathetic about learning. In peer groups, the dioxin-exposed young were unusually aggressive, initiating violent behavior more often than unexposed monkeys.

"It took us centuries to recognize that lead was impairing our children's mental development," says Pat Costner, Greenpeace's research director. "There's no excuse for sitting back while the same—or worse—happens with dioxin."

YET EPA'S EFFORT TO DETOXYFIFY DIOXIN PERSISTS. IN A 1990 internal memo, EPA official Donald Barnes—one of the earliest advocates of slashing the risk assessment by a factor of 16—wrote that if the agency could find a way to adopt the level proposed in 1988, EPA could make a "risk management decision" to allow risks of one in 100,000 instead of one in a million. "EPA's number," Barnes wrote, referring to the "acceptable" dose that would result, would then be "comparable with the 'background' dietary intake level." In other words, levels of dioxin already present in the environment would abruptly, and conveniently, be labeled "safe."

The day NIOSH's 1991 study linking cancer to dioxin exposure among chemical workers was released, an EPA memo leaked to Greenpeace expressed the agency's plan to use the study to reduce the risk assessment. Though NIOSH's research involved no measurement of dioxin doses in any of the workers examined—and, according to the memo, EPA had not yet received the study's data from the author—the agency's intent was clear: "EPA will attempt a new quantitative risk assessment if the data allow (which is likely)."

The average Canadian ingests dioxin at a rate more than 250 times greater than EPA's standard "acceptable" dose, primarily through dairy products, eggs, beef and poultry. EPA has not yet conducted this sort of research on American foodstuffs.

According to 1982 EPA research, dioxins can be found in 100 percent of fatty tissue samples from U.S. residents, and 75 percent contain detectable levels of TCDD, the most toxic form.

Also in 1991, a dioxin conference hosted by the prestigious Banbury Center exploded in controversy when the Chlorine Institute declared, in a press packet put out with the help of a public relations firm, that a "consensus" had been reached on a new downgraded estimate of dioxin's danger. Independent scientists who attended the conference bristle at the assertion. "It was not a consensus conference," says Jan Witkowski, Banbury's director. Silbergeld, who gave the meeting's central address on dioxin and risk assessment, says she is "astounded" that anyone is suggesting there was agreement to reduce the cancer potency estimate. "I did not expect to be manipulated by industry or government spokespeople," Silbergeld told *Science* magazine in February.

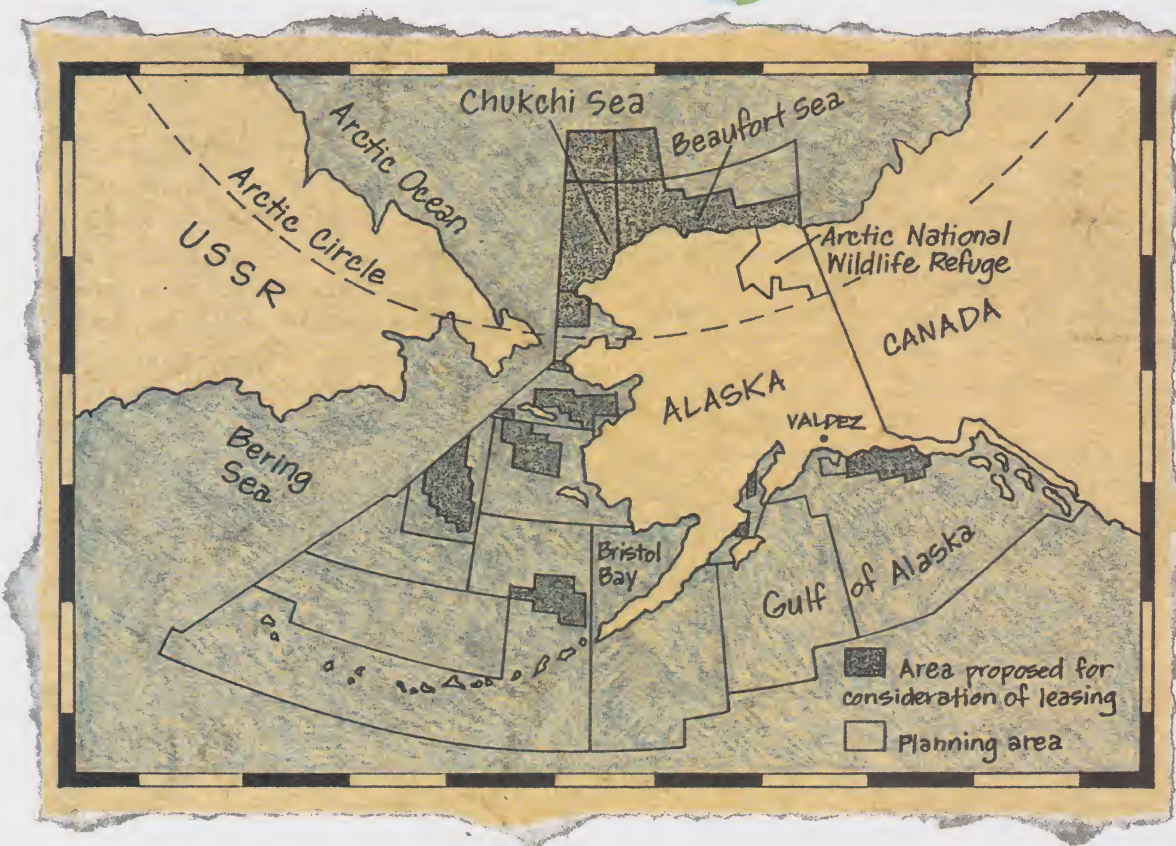
But EPA apparently is already pushing the fake consensus. Linda Birnbaum, an official in EPA's Health Effects Research Laboratory, is telling the agency that "back of the envelope calculations led to agreement" at the conference that EPA's dioxin risk assessment could be weakened by a factor of as much as 500.

While it prepares to alter its risk assessment, EPA is allowing states to weaken their own dioxin positions. Regulators in seven states have already changed standards to allow greater dioxin levels. The Environmental Defense Fund is now suing EPA for its failure to implement the Clean Water Act.

SOME 17,000 STUDIES EXIST ON DIOXIN'S HEALTH EFFECTS. The controversy over the best way to measure its toxicity will continue. But alternatives are available now for industrial processes that produce dioxin. Paper manufacturers can substitute oxygen-based processes and other methods to eliminate the use of chlorine. Recycling and other waste-reduction strategies can eliminate any need for incinerators, and chlorinated pesticides, plastics and industrial chemicals can be replaced with safer materials and processes.

Protecting the environment from dioxin means eliminating chlorine from a whole range of industries, and the transition will require major investments from industry and ambitious action from government. For the makers of chlorine and chlorinated chemicals, it means making different products. These are serious changes that will not come easily or, judging from the various industries' questionable efforts, voluntarily. But focusing on lengthy disputes over science and risk assessment has diverted time and money from action and jeopardized public health.

Since PCBs and DDT were banned, their levels in the environment have steadily dropped. There is more than enough information now to justify emergency action to ban dioxin sources, if only the government had the political will to do so. "EPA has been asleep at the wheel on dioxin for far too long," Greenpeace's Costner says. "It's time for the country to wake it up." □



Alaskan waters on the auction block

ENERGY SANITY

AS THE UNITED STATES WAGED WAR AGAINST Iraq, campaigners working for Greenpeace promoted a safer energy future. In Washington, D.C., they testified against offshore drilling, and promoted renewable, non-polluting energy. In Chicago, they called for higher fuel efficiency standards, and on the west coast they created a "bikes only" rush hour.

Dorothy Smith, Outer Continental Shelf (OCS) campaigner, testified on Capitol Hill, where she argued against the Interior Department's plan to auction 46 million acres of Alaskan Arctic waters. Offshore drilling is environmentally dangerous everywhere, but especially so in the Arctic—where frigid, harsh weather makes operations difficult, and clean-ups impossible.

In its new Five-Year Plan (1992-1997), the Interior Department concedes that it should have better information on environmental risks before holding lease sales. Nonetheless, it says it will go ahead with this year's Arctic lease sales because it would be "bad business" to withdraw them now. Interior's new plan includes another 91.5 million Arctic acres, 337 million acres of Alaska's Bering Sea and North

Pacific coasts, and 377 million acres off the Atlantic coast, the Gulf of Mexico and southern California.

Exploiting all of the coastal areas not yet in industry's grasp would supply less than two years' worth of oil. The Arctic waters would only satisfy the country's oil needs for about five months.

"Extracting this meager energy supply will fill the pockets of oil industry executives while sacrificing the ocean wilderness—the path of the great bird and whale migrations and the polar bear range," says Smith. "Efficiency and renewable energy can keep the oil in the ground."

Greenpeace brought the fuel efficiency message to the Great Lakes region, where activists unfurled a huge banner at the Chicago Auto Show that read, "Fuel Efficiency Equals Energy Security." Activists leafleted the crowd with information about oil imports and wasted oil, and encouraged attendees to ask auto show dealers about their most efficient models. They also "ticketed" cars parked at the show, using fake parking citations that asked the drivers to buy only the most efficient cars, ride mass transit or bicycles when possible,

WANTED: 1992 OVERWINTERING TEAM WORLD PARK BASE IN ANTARCTICA

Base Leader: Must be skilled in mountaineering, sea-ice travel, working in polar climates, leading small groups in isolated adverse conditions and maintaining and operating machinery, including diesel engines. The base leader will be the chief representative of Greenpeace and will be responsible for all activities at the base, including leading field trips and maintaining base machinery and operational systems.

Medical Doctor/Nurse/Paramedic: Must be experienced in emergency medical procedures and be prepared to accept the rigors of isolation and working under extreme conditions. Will be expected to assist the environmental research program and other projects at the base.

Radio Technician: Must be familiar with installation, maintenance and repair of HF and VHF communications systems, digital computer communications, HF antennas and satellites. Possession of an amateur radio license is a definite advantage. Some knowledge of alternative energy systems, such as wind and solar energy, is

What You Can Do:

- 1) Urge your representatives in Congress to support the moratorium on offshore drilling, especially for Alaska's Bristol Bay, the Arctic waters of the Beaufort and Chukchi Seas, the North Carolina coast and the eastern Gulf of Mexico along the Florida coast.
- 2) Ask your representatives to work for a national energy policy based on efficiency and renewable energy.
- 3) Ride your bike or take public transportation whenever you can.
- 4) Make your home more energy efficient (see Action Access).



useful. Must have practical electrical experience in order to maintain base electrical systems.

Biological Scientist/Technician: Must have knowledge and extensive field experience in pollution or environmental studies, especially in polar regions. Will continue the existing environmental pollution monitoring program of the Greenpeace base and other bases in the vicinity. Will gather data on background pollution levels in the Antarctic environment, study marine zooplankton and fish during the winter darkness and observe seasonal variations in nearby freshwater lakes. Opportunities for original research are also available.

Positions are open to both men and women. Applicants must be conversant in English. Other languages useful. Previous Antarctic experience highly desirable. Mountaineering/cold weather/polar experience or experience with isolation in small groups helpful. Health must be excellent. Commitment will be required from September 1991 through March 1993. Specialized training will be provided as required, including Antarctic survival training. Please send a resume written in English to Nancy Foote, Greenpeace Antarctica Campaign, 1436 U Street, NW, Washington, DC 20009.

and lobby Congress to push for higher fuel efficiency standards.

According to Chicago Atmosphere and Energy campaigner Sarah Jane Knoy, Auto Show sponsors should have done more than push the faster, sexier gas-guzzling cars. "General Motors, Nissan, Honda, Volkswagen, Audi, Citroen and Fiat have all made safe, comfortable cars that get between 67 and 138 miles per gallon," she said. "These cars should be on the market now."

In Seattle, bicyclists created their own ideal rush hour: On Saturday, February 9, all express lanes of Interstate Highway #5 were filled with about 1,000 bicyclists—and no cars. The Seattle Coalition for Peace in the Middle East, which included Greenpeace Action activists, dubbed the event "Pedal for Peace." Greenpeace Action sponsored a simultaneous rally in Portland, which attracted 200 bicyclists. Greenpeace Action campaigner Ken Stump commented, "We can see how wrong-headed policies create more sprawl, more freeways, more dependence on cars, more congestion, and ultimately more oil consumption. By riding bicycles, people were saying that they want change, they want solutions to these problems."

And back in the nation's capital, Greenpeace Media Director Peter Dykstra sent out press alerts calling for the liberation of "The White House 32"—32 solar panels collecting dust in a government warehouse. The panels, installed on the White House by President Carter in 1979, provided about 75 percent of the hot water used in the presidential offices and staff cafeteria, and cut heating bills by about \$1,000 a year. They were removed in 1986 during White House renovations and never reinstalled.

Greenpeace tracked down the panels in GSA Warehouse #202 and asked for permission to take them. Government officials denied the request. So on the day the president's National Energy Strategy was released, with new tax breaks and subsidies for oil, coal, gas and nuclear power, activists delivered replacement panels to the White House. Atmosphere and Energy campaigner Alexandra Allen commented, "These panels symbolize what ought to be the cornerstone of our national energy policy—energy efficiency and renewable energy."

WASTE CHEM WASTE

CHEMICAL WASTE MANAGEMENT, OR "Chem Waste"—longtime target of community activists and Greenpeace toxics campaigners—received a one-two punch on February 13th. Not only did the Kettleman City citizens' group El Pueblo para el Aire y Agua Limpio (People for Clean Air and Water) file a civil rights lawsuit against the company on that day, but an explosion at its Southeast Chicago toxic waste incinerator blew out the burner's door seals and prompted the Illinois EPA to shut it down temporarily. Community and Greenpeace activists had blockaded the incinerator two months before the explosion, charging that the facility was dangerous and should be closed immediately.

The California lawsuit charges that Chem Waste and county officials discriminatorily sited a new toxic waste incinerator in Kettleman City as part of a nationwide pattern of putting toxic waste facilities in poor minority communities. Kettleman City—already home to Chem Waste's sprawling toxic waste dump—is 85 percent Latino; Southeast Chicago is 72 percent African American and 11 percent Latino. "Chem Waste thought that because we are poor Latinos, they could sneak the incinerator by us," said Espa Maya, an El Pueblo leader. "Well, they're wrong."

The suit also charges that Kings County effectively excluded Spanish-speaking people from the incinerator permitting process. According to Luke Cole of California Rural Legal Assistance (CRLA), which is representing El Pueblo, "Chem Waste and the County have chosen to put this thing in a Spanish-speaking community, and then they have held all hearings and published all the documents in English. It's pretty sleazy, but they're not going to get away with it."



• **What You Can Do:** The nation's hazardous and solid waste law, the Resource Conservation and Recovery Act (RCRA), should ban the burn. Write to your Representatives in Congress and tell them to support moratoriums on construction of both hazardous and solid waste incinerators when the RCRA debate begins this year.

The Campaigns section is paid for by Greenpeace Action. Greenpeace Action is a sister organization of Greenpeace USA that promotes environmental protection and disarmament through grassroots organizing, education and legislation.

◀ Citizens fight Chem Waste



ENVIRONMENTAL SCORECARD

THE LEAGUE OF CONSERVATION VOTERS (LCV) tracks the voting record of Congress and rates each member for eight environmental categories, including consumer protection, water subsidies, plutonium production, wild and scenic rivers and organic foods. To see how your representatives are doing, order the 1990 *National Environmental Scorecard* from LCV, 1707 L Street, NW, Suite 550, Washington, DC 20036; 202-785-8683.



P3 IS A1!

P3—THE EARTH-BASED MAGAZINE FOR KIDS—is available now for a special price. Send \$12 for a one-year, five-issue subscription. A two-year subscription costs \$18. For a subscription and a P-3 T-shirt, add \$12 to the price. Send check or money order to P3, P.O. Box 52, Montgomery, VT 05470; 802-326-4669.

OPPOSE COMMERCIAL WHALING

FOR THE FIRST TIME SINCE COMMERCIAL whaling was banned, the International Whaling Commission (IWC) will meet on the home turf of a whaling nation. This year's meeting is scheduled for the last week in May in Reykjavik, Iceland. Despite the international moratorium on commercial whaling, Iceland, Japan and Norway are working vigorously to resume killing thousands of whales a year.

Last year, the United States, reflecting the

overwhelming opinion of the American people, voiced support for the moratorium and against commercial whaling. It is of paramount importance that the U.S. play the same strong role at this year's meeting in order to resist the maneuvers of the whaling countries to undermine the moratorium.

Write to President Bush and call upon the U.S. government to continue to oppose any resumption of commercial whaling, and to make fullest use of diplomatic channels and appropriate domestic and international law to uphold the IWC moratorium. President George Bush, The White House, 1600 Pennsylvania Avenue, NW, Washington, DC 20500.

POSTCARDS TO CYANAMID

EVERY YEAR, AMERICAN CYANAMID CORPORATION ships about 10 tons of mercury waste to British-owned Thor Chemicals in Natal Province, South Africa (see "Of Apartheid and Pollution," *Greenpeace*, May/June 1990). The Interfaith Center on Corporate Responsibility (ICCR) has printed postcards, calling on the company's chief executive officer to stop shipping toxic waste to South Africa, to sever business ties with the country until apartheid is abolished and to uphold the rights of Cyanamid's South African workers. For more information about ICCR's American Cyanamid campaign, write to ICCR, Room 566, 475 Riverside Drive, New York, NY 10115. To order the postcards, send \$15 per 100, \$25 per 250, \$45 per 500 or \$60 per 1,000.

ENERGY ADVICE

THE NON-PROFIT AMERICAN COUNCIL FOR an Energy-Efficient Economy (ACEEE) recently published *The 1991 Consumer Guide to Home Energy Savings*. The 250-page book lists and rates the efficiency of virtually every heating system and super-efficient appliance by brand name and model number, and is available for \$6.95 from bookstores or \$8.95 from ACEEE, 1001 Connecticut Ave., NW, #535, Washington, DC 20036; 202-429-8873.

MINORITY SUMMIT

IN OCTOBER, THE COMMISSION FOR RACIAL Justice will convene the first National Minority Environmental Leadership Summit in

Washington, D.C., to probe the issue of environmental racism. National and grassroots leaders in the civil rights, environmental, government and corporate communities will attend. For more information, contact United Church of Christ, Commission for Racial Justice, 475 Riverside Drive, Room 1948, New York, NY 10115; 212-870-2077.

STOP BLEACHED PULP PLAN

THE ALABAMA RIVER PULP COMPANY HAS proposed to build a 3,000-ton-a-day mill on the Ohio River in Apple Grove, West Virginia. The mill would consume tens of thousands of acres of woodlands each year, turning them into chlorine-bleached pulp. The chlorine-based bleaching process would create millions of pounds of organochlorines, including dioxins (see "The Dioxin Deception," pg. 16), as well as other pollution problems, including toxic air emissions and an on-site hazardous waste landfill. Express your opposition to the plan to West Virginia's governor, who is supporting the mill, and ask him instead to promote recycled paper mills that don't use chlorine bleaching: Governor Gaston Caperton, Office of the Governor, State Capitol Complex, Charleston, West Virginia 25305; 304-340-1600. For more information contact Tim Martin, Greenpeace Pulp and Paper Campaign, 1017 W. Jackson Boulevard, Chicago, IL 60607.

GREEN PHOTOGRAPHERS

PHOTOGREEN—A NEW NON-PROFIT ORGANIZATION for people in the photographic industry—is looking for members. Photogreen will act as a clearinghouse for information on environmental problems and solutions related to photography. It will also make photographic services available, free of charge, to recognized conservation-oriented non-profit organizations. For more information, send a #10 SASE to Photogreen at RD 2, Box 638A, Musconetcong River Road, Hampton, NJ 08827-9540; 908-537-4313.

The Action Access section is paid for by Greenpeace Action—a sister organization of Greenpeace USA that promotes environmental protection and disarmament through grassroots organizing, education and legislation.



J A N U A R Y

16 South Pole. Greenpeace ship *MV Gondwana* completes successful resupply mission of Greenpeace World Park Base in Antarctica.

18 Boulder, Colorado. Greenpeace unveils anti-nuclear messages on billboards near the aged Rocky Flats nuclear weapons plant, and, to



cooperate with a local anti-billboard group, agrees to dismantle the billboards by June 15.

20 Queensland, Australia. Greenpeace activists aboard the *Redbill* continue their campaign to

assure complete protection of sea turtles in eastern Australia and Bali.

23 Bamako, Mali. Greenpeace waste trade experts attend Pan-African Conference on Environment and Sustainable Development, where a draft African Convention for dealing with hazardous wastes is adopted.

28 Washington. Greenpeace media department launches *Pundit Watch*, a weekly newsletter that monitors media coverage of the Gulf war.

28 San Francisco. Representatives from Greenpeace, Earth Island Institute and over a dozen other environmental organizations join together to

denounce the war and discuss the consequences of the Gulf oil spill.

29 Bratislava, Czechoslovakia. Greenpeace, Czech and Slovakian environmentalists demand an immediate shutdown of the desolate nuclear plant at Jaslovské Bohunice and a phase-out of nuclear power in Czechoslovakia.

F E B R U A R Y

4 Chantilly, Virginia. Greenpeace delegation attends negotiations on a global climate convention, where the United States refuses to join a commitment to stop global warming.



12 Toronto. Greenpeace climber rappels down nine stories of the Royal York Hotel to challenge Prime Minister Mulroney on Canada's involvement in the Gulf war.

12 Seattle. Greenpeace calls for the *USS Nimitz* to remain at the Puget Sound Naval Shipyard, due to unresolved reactor safety concerns raised by four of the ship's sailors last August.

13 Chicago. Greenpeace again calls for the shutdown of the Chemical Waste Management facility on Stony Island after a fire and explosion break the door seals on kilns burning hazardous waste.

13 San Francisco. Residents of Kettleman City bring a major civil rights law suit over the siting of a Chemical Waste Management toxic waste incinerator in their low-income Latino community.

14 London. Greenpeace releases report, *Chemical Weapons and Their Effect on the Environment*, detailing the history, use and impact of chemical weapons, and specific threats to the Gulf region.

15 Kiev, USSR. Greenpeace opens a medical diagnostic laboratory to assist Ukrainian people with health problems, which have been compounded by the Chernobyl nuclear disaster.

17 Chicago. Greenpeace Action activists pass out leaflets and "parking tickets" at the Chicago Auto Show, asking manufacturers and consumers to push for more fuel-efficient cars.

19 Helsinki, Finland. Greenpeace attends annual meeting of the Helsinki Commission, where Finland, Sweden, the Soviet Union, Denmark and Poland discuss ways to improve the environment of the Baltic Sea.

20 Osa Peninsula, Costa Rica. Spanish anthropologist Manuel Alonzo develops the VERDEA project to build rainforest canopy research platforms, with help from Conservation International, Greenpeace and the World-wide Fund for Nature.

21 Washington. Greenpeace activists protest President Bush's oil-and-nuclear-dependent National



Energy Strategy and deliver solar panels to the White House, to replace those removed by President Reagan in 1986.

22 Chicago. Greenpeace and citizens of Chicago's Southeast side ask the U.S. Environmental Protection Agency to close Chemical Waste Management's haz-

ardous waste incinerator permanently.

27 Auckland, New Zealand. Fifty Greenpeace activists blockade the entrances to Wynard Wharf by handcuffing themselves to concrete-filled barrels, to protest the importation, use and disposal of hazardous chemicals in New Zealand.

M A R C H

5 Amsterdam. Greenpeace introduces its new ship, the *Sola*, which will be assigned to the North Sea. The 67-meter rebuilt Dutch tugboat is equipped with a helicopter deck, animal hospital, laboratory, darkroom and exhibition room.

9 San Francisco. The Bay Area Environmental Peace Network, which includes Greenpeace, rallies to mourn victims of the Persian Gulf war and discusses strategies for shifting to clean, safe and renewable energy sources.

14 Barcelona, Spain. Greenpeace activists and crew members from the *Sirius* block an industrial discharge pipe that is used by the companies Solvay, Viniclor and Hispavic to dump toxic waste into the Llobregat River.

15 Derry, Northern Ireland. Greenpeace campaigner Claire O'Grady Walshe addresses thousands of people—from both sides of the border—who gathered to oppose the proposed Du Pont toxic waste incinerator.

16 Corpus Christi, Texas. During their tour of the Gulf of Mexico, Greenpeace activists aboard the *Moby Dick* display nets full of plastic junk gathered during their voyage from Florida, and talk to the public about the threat that plastic debris poses to sea life.

18 Madrid, Spain. Greenpeace activists aboard inflatables land on the Vandellós 1 nuclear power plant and unfurl banners asking for the closure of all Spanish nuclear reactors.



The vast majority of our recent mail addressed our position on the Gulf war. The following is a sample of what we've received. —Eds.

No one likes war. But a vast majority of Americans thought that this was our only alternative. Some people think we should have given sanctions more time. Regardless of who is right, and regardless of what decision was made, Greenpeace should not be taking a public stance on this issue. Personally, I support our president's decision, and I respect others who don't support it. Greenpeace should focus its attention on specific goals and avoid controversial pitfalls.

*Greg Thomas
Dallas, Texas*

I am so proud of you. I had really thought something subliminal must be emanating from the nation's TV sets when it seemed everybody wanted war. I am relieved you are still out there. I think your March/April issue is the best ever.

I am particularly pleased with your six promises to adhere to non-violent demonstrations.

*Christine Jang Taylor
Zionville, North Carolina*

Veterans for Peace heartily endorses Greenpeace's efforts to inform the public about the unspoken causes of the war and its ramifications.

The new rounds of GATT, the new North American Trade Agreements, and George Bush's new energy policy are being controlled and engineered to keep in place the energy and automobile companies. The GATT terms sought by the executive branch would allow automatic access to energy, raw materials and cheap labor in the Third World.

I feel Greenpeace has the right idea in

pointing out our environmental wrongs, using direct non-violent action, gathering and documenting information, and presenting your case to the legislative and executive branches. We're going against the largest, strongest, most in-bred corporations and military in the history of the world.

*John L. Ritter
Veterans for Peace
Tucson, Arizona*

"Thinking About the War" is timely and excellent. While the Kuwaiti oil wells still burn, I hope the illusion that the war is over will not cause readers to shrug off the message of this editorial. It has correctly and forcefully stated that the war is ecologically "a consequence of a fundamentally destructive way of life, centered on our addiction to oil."

*William R. Catton, Jr.
Professor Emeritus
Washington State University*

There is something really wrong with a country that portrays people for "peace" as the bad guys. I have many questions concerning this war and I'm sure I'm not alone.

Are we to believe that with our intelligence network we didn't know what Saddam was going to do? Assuming this is true, why did we continue to loan Iraq money, and provide ships, chemicals, weapons, etc.? And didn't we know other countries were also doing this?

New World Order has a rather frightening ring to it.

*Mrs. M. McCabe
Albion, Pennsylvania*

I continue to believe, in spite of the polls and many of the "experts" that the best way to a

green and peaceful planet is not through a bloody war. Thank you for having the courage to be consistent with the ideals expressed in your name.

*Steve Leibon
Parthenon, Arkansas*

Sentiments that the world can no longer afford war are fine, but ignore the basic premise that war can only be avoided where both sides act rationally, and with a willingness to act in a moral and legal way.

Your editorial failed to offer any insight as to what the alternative to militarily opposing Saddam could be. What if Saddam next invaded Egypt? Israel? His reaction to internal dissent, peaceful or otherwise, is fairly well known, and his concern for foreign opinion is similarly recognized.

We can't be blind to the reality that force, as much as we abhor it, still continues to be a necessary last resort in defending freedom.

*Wegard D. Holby
Upper Black Eddy, Pennsylvania*

The real issue behind the Persian Gulf war is living in a world of peace and democracy among mankind. I do not think a man such as Saddam Hussein can learn through the ways of "non-violence, democracy, international cooperation and diplomacy" as you state in your editorial. It was Saddam who caused the devastating environmental impact to the region by polluting the air, water and land with oil spills and by setting oil fires. It is human beings such as Saddam who cause massive destruction to people and the planet. It was Saddam who threatened the "promise of peace for the future," not the war.

*Sandy Mazer
Sharon, Massachusetts*

GREENPEACE MAGAZINE

STAFF Editor: Andre Carothers **Senior Editor:** Daphne Wysham
Associate Editor: Judy Christup **Managing Editor:** Dana K. Harmon
Acting Managing Editor: Laura Farr Collins **Administrative Assistant:** Michael DeLane **Interns:** Diane Feeney, Laura Harger **Design:** Jeremiah Austin Graphic Design **Typography:** Phil's Photo & Type Foundry **Prepress:** Lanman Progressive **Printing:** Arcata Graphics through JK Enterprises **Additional Editorial Help:** Bradley Angel, Bill Arkin, Peter Bahouth, Mary Boyd, Pat Costner, Charlie Cray, Peter Dykstra, Sarah Jane Knoy, Gregory W. Luce, Sandra Marquardt, Peter Montague, Cynthia Moore, Beth Newman, Meg Ruby, Dorothy Smith, Peg Stevenson, Ken Stump, Jim Vallette **OFFICES** **Canada:** **Vancouver:** 1726 Commercial Drive, Vancouver, B.C. V5N 4A3, (604) 253-7701; **Toronto:** 185 Spadina Avenue, 6th Floor, Toronto, Ontario M5D 2Z5, (416) 345-8408; **Montréal:** 2444 Rue Notre Dame Ouest,

Montréal, Québec H3J, 1N5, (514) 933-0021. **United States:** **Chicago:** 1017 West Jackson Blvd., Chicago, IL 60607, (312) 666-3305; **Boston:** 709 Centre Street, Jamaica Plain, MA 02130, (617) 983-0300; **Seattle:** 4649 Sunnyside Avenue, N. Seattle, WA 98103, (206) 632-4326; **San Francisco:** 139 Townsend Street, 4th Floor, San Francisco, CA 94107, (415) 512-9025; **Fort Lauderdale:** 408 South Andrews Avenue, Suite 203, Fort Lauderdale, FL 33301, (305) 768-9660 **Editorial Office (USA Headquarters):** 1436 U Street, NW, Washington, DC 20009, (202) 462-1177 TTY (202) 319-2495 (U.S. subscribers only). **MOVING? DUPLICATES?** Send your magazine label with your correct address to P.O. Box 3720, Washington, DC 20007, or in Canada, to the Toronto office. Greenpeace is an international environmental group with offices in Antarctica, Argentina, Australia, Austria, Belgium, Brazil, Canada, Costa Rica, Denmark, Finland, France, Germany, Ireland,

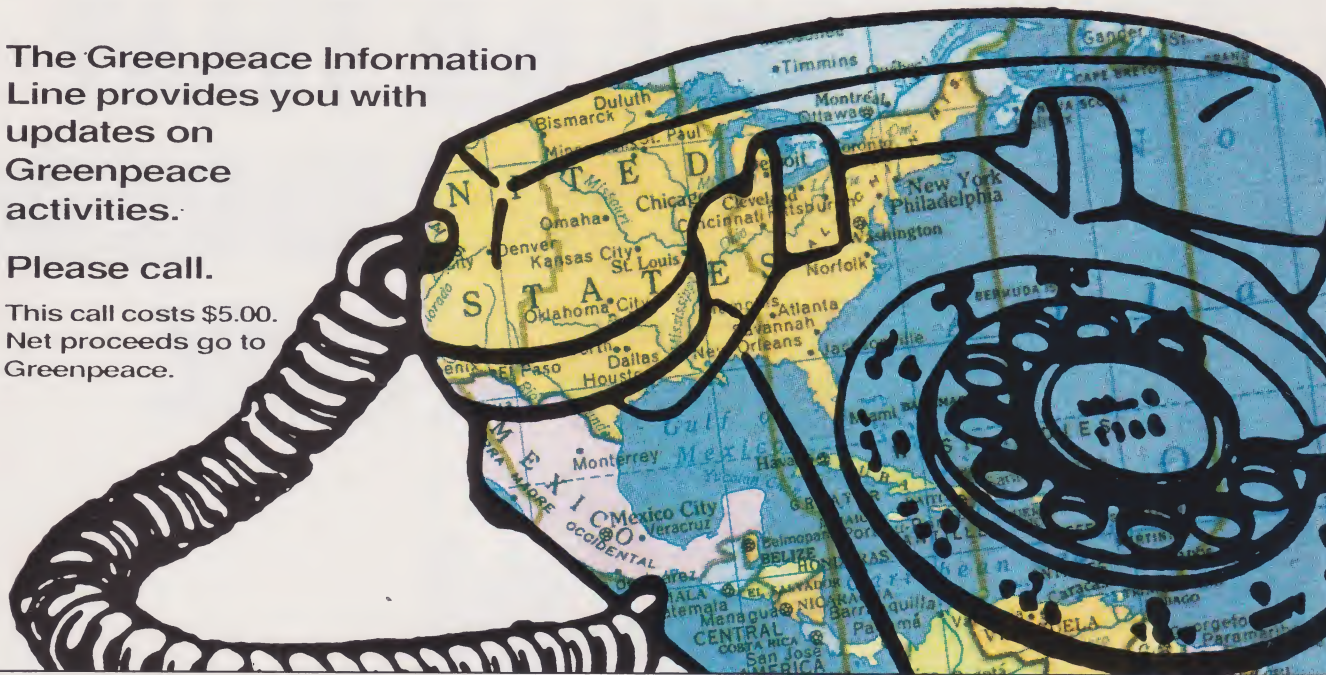
Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, the Soviet Union, Spain, Sweden, Switzerland, the United Kingdom, and the United States. *Greenpeace Magazine*, ISSN 0899-0190, is published six times a year. To receive the magazine and support Greenpeace USA (a non-profit, tax exempt organization) we request an annual donation of \$20.00. Information about Greenpeace is available from Greenpeace, 1436 U Street, NW, Washington, DC 20009. Portions of *Greenpeace Magazine* are written and funded by Greenpeace Action, a non-profit organization that works in cooperation with Greenpeace USA to pursue organizing and lobbying on environmental and disarmament issues. Donations to Greenpeace Action are not tax deductible. Greenpeace Action requests that you donate \$20 or more to receive the bimonthly *Greenpeace Magazine*. Please allow up to 8 weeks for your first issue.

1-900-860-2020

The Greenpeace Information Line provides you with updates on Greenpeace activities.

Please call.

This call costs \$5.00.
Net proceeds go to Greenpeace.



Announcing the end of the silent check.

"It's working! Thousands of you are now using Greenpeace checks. Every time you use these checks, you help us spread our message and generate money to continue our work."

Peter Bahouth,
Executive Director
Greenpeace



A special offer for Greenpeace supporters. Now you can speak out for Greenpeace with every check you write. You can show those you do business with that you want clean rivers and lakes and seas. You can show you are saying "No" to the production of toxic waste and "Yes" to the protection of threatened marine mammals and other endangered species, human beings included.

The startling facts. If you're like the average Greenpeace supporter, you wrote about 300 checks last year. And every last one of them was silent. Now, your checks can make a bold statement about where you stand. Your Greenpeace checks will start discussions. And allow you to help others understand what Greenpeace is all about.

Do they work? Absolutely. Your Greenpeace checks carry the same banking and personal

information that's on your present checks. In fact, there's only one difference between these checks and the checks you're using now. The message.

Greenpeace makes a buck. Every time you order a supply of Greenpeace checks Greenpeace makes up to \$1.50. That may not seem like much, but remember all the other Greenpeace supporters. Together, you are making a very big difference for Greenpeace.

So get the word out. Don't write another silent check. Not when you could be showing your support for the dramatic actions of Greenpeace.

Satisfaction guaranteed or a full refund will be provided.

Sorry, Canadian and stub style checks not available at this time. Allow 2-4 weeks for delivery. WA state residents add 8.2% sales tax. Questions? Call (206) 324-7792.

© Message/Check Corp. 1991

To order, complete and return this form.

1. Select both a design and a check style below

<input type="checkbox"/> Greenpeace	<input type="checkbox"/> SINGLE \$14.00 per 200 checks	<input type="checkbox"/> DUPLICATE \$14.95 per 150 checks
<input type="checkbox"/> You Can't Sink a Rainbow	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Let the Oceans Live	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Multi-scene (all of above)	<input type="checkbox"/> SINGLE \$16.00 per 200 checks	<input type="checkbox"/> DUPLICATE \$16.95 per 150 checks
	<input type="checkbox"/>	<input type="checkbox"/>
2. Select shipping preference:	<input type="checkbox"/> FIRST CLASS Add \$3.00 (allow 2 wks)	<input type="checkbox"/> BULK MAIL No charge (allow 4 wks)

3. Attach the following to this form:

- Re-order form from your present check supply
- Deposit ticket from same account
- Payment check made payable to Message/Check Corp.

4. Day time phone where you can be reached ()

5. Mail to: Message/Check Corp.® 911 E. Pike, P.O. Box 3206 A-25, Seattle, WA 98114

IN AFRICA THERE IS A TYPE OF CATERPILLAR THAT CONSUMES HUNDREDS OF ACRES A DAY.

In the two minutes it takes you to read this ad, about 300 acres of African, South American, and Asian jungle will be cut down, burned, or bulldozed.

This senseless destruction increases global warming and the greenhouse effect. It destroys the cultures of those who've lived in the jungles for centuries. Perhaps worst of all, it causes at least one entire plant or animal species to become extinct every single day.

Right now, all of this is happening thousands of miles away. But there



are things that you can do right here at home to stop it.

You can write to your representatives and senators urging them to support legislation protecting tropical forests. You can tell them you don't want your tax dollars spent on projects

that are destroying the ancient jungles. And you can support Greenpeace Action. We'll work to stop funding for new roads and logging operations.

We'll also let people know how they can help the rainforest natives keep their homelands.

There. Two minutes are finished. And so are about 300 acres of rainforests.

GREENPEACE ACTION

I'm proud to support the efforts of Greenpeace Action.
Enclosed is my donation. E1

_____ \$20 _____ \$30 _____ \$50 _____ \$100 _____

I prefer to send \$ _____

We request that you donate \$20 or more to receive the bimonthly *Greenpeace* magazine. Please allow up to 8 weeks for your first issue. Contributions or gifts to Greenpeace Action are not tax deductible.

Name _____

Address _____

City/State _____ ZIP Code _____

Please return to:
Greenpeace Action
1436 U Street NW, Suite 201A
Washington, DC 20009

GREENPEACE USA
1436 U STREET NW
WASHINGTON, DC 20009

Include revised mailing label for name and address changes

NON-PROFIT
ORGANIZATION
U.S. POSTAGE PAID
CLARKSVILLE, TN
PERMIT NO. 621